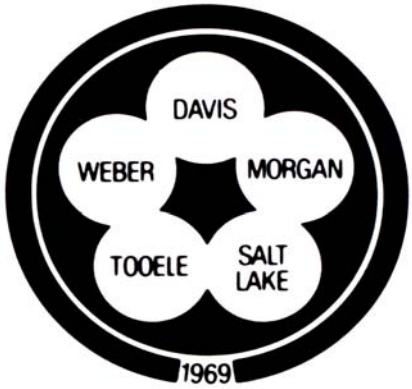
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE

2004 - 2030

Technical Report 43

December 2003



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I. OVERVIEW

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 (2030 LRP Update) has been developed in response to growing regional transportation needs and future demand. The 2030 LRP Update meets federal government requirements (under 23 CFR, Part 450 of the Code for Federal Regulations) for metropolitan areas with a population of 200,000 or greater to adopt a long range transportation plan for a minimum twenty-year period, with an update every three years. The planning policies and recommendations of the 2030 LRP Update are prepared under the guidelines of the Transportation Equity Act for the 21st Century (TEA-21). The Salt Lake and Ogden/Layton Urbanized Areas, treated in the past as two separate and distinct geographic jurisdictions for travel demand analysis, needs assessment, recommended transportation projects, and supporting documentation, have been combined into the larger, more complete Wasatch Front Urban Area for the purposes of this report. This document, Technical Report Number 43, details the 2030 LRP Update planning process, improvement projects, impacts, and supercedes its predecessor, the 2002-2030 Long Range Transportation Plan.

The Wasatch Front Regional Council (WFRC) is responsible for developing an area-wide long range transportation plan for Salt Lake, Davis, and Weber Counties. The WFRC worked in close cooperation with representatives from the Utah Department of Transportation (UDOT), the Utah Transit Authority (UTA), the Utah Division of Air Quality (DAQ), and the cities and counties located within its jurisdiction to develop new transportation facilities and upgrades to the existing transportation systems and infrastructure. The purpose of the 2030 LRP Update is to identify needed highway, transit, and other transportation improvements in the region. The WFRC works with the cities and counties in the urbanized areas, as well as the state highway agency and public transportation providers, to ensure a coordinated transportation system and establish funding priorities.

Projected population and vehicle miles traveled for 2030 will cause average weekday delays to increase by 182 percent. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 includes approximately 1,220 lane miles of capacity improvements to the highway system. Major public transit improvements recommended by the 2030 LRP Update include adding to the existing system ten light rail transit extensions equaling 35 miles, three commuter rail lines totaling 66 miles, and 15 bus rapid transit or enhanced bus lines equaling 175 miles to serve the growing transportation needs of the Wasatch Region. Of the 175 miles of bus rapid transit, or enhanced bus lines, approximately 46 miles are anticipated to have bus lanes. The number of bus route miles is recommended to double over the next 27 years. This increase in the public transportation system will translate into greater service coverage, more frequent service, and longer hours of operation. Primary transportation corridors have been identified for priority or high-frequency bus transit service.

Finally, the 2030 LRP Update was developed within the constraint of financial feasibility. The list of highway and transit facility improvements contain only those projects that can be funded over the next 27 years. Reasonable assumptions were made concerning both future revenues for transportation improvements and the estimated costs of recommended highway and transit facilities. To coincide with anticipated financing and revenue streams, the implementation of the 2030 LRP Update was divided into three separate phases: Phase 1 (2004-2012); Phase 2 (2013-2022); and Phase 3 (2023-2030). The Wasatch Front Urban Area Financial Plan Update, Technical Report 44, documents the revenues and costs of highway and transit improvements. A separate appendices document supports the planning process, public involvement, and recommendations of the 2030 LRP Update.

ABSTRACT

TITLE: Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030
Technical Report 43

AUTHOR: The Wasatch Front Regional Council

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ABSTRACT: The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 (2030 LRP Update) is the Salt Lake and Ogden/ Layton Urbanized Areas' fiscally constrained plan for highway, transit, and other facility improvements to meet projected travel demand over the next 27-years. Developed in accordance with federal guidelines, the 2030 LRP Update includes highway and transit facilities identified by region-wide planners, engineers, elected officials, various transportation committees, stakeholders, state agencies, and the general public that would best serve the needs of the Wasatch Front Region and its two urbanized areas. The planning process and the steps used to develop the 2030 LRP Update are presented, along with an analysis and evaluation of four highway and transit alternatives that contributed to the final recommendations. Social, economic, and environmental impacts of the 2030 LRP Update recommendations were examined, analyzed and documented. The 2004-2030 Long Range Transportation Plan Update also includes recommendations for a regional bicycle network. The financial aspects of the 2030 LRP Update include projected revenues over the next 27-year period to cover the estimated costs for recommended highway and transit improvements.

SUPPORT DOCUMENTS: Wasatch Front Urban Area Financial Plan Update: 2004-2030
Technical Report 44

Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 Appendices

Air Quality Memorandum
Report Number 18

II. INTRODUCTION

The Wasatch Front Regional Council (WFRC), as the Metropolitan Planning Organization (MPO) for the region, is responsible for transportation planning for the Salt Lake and Ogden/Layton Urbanized Areas. In cooperation with the Utah Department of Transportation (UDOT), the Utah Transit Authority (UTA), the Utah Division Of Air Quality (DAQ), other federal and state agencies, and local cities and counties, the WFRC has developed the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 (2030 LRP Update) with a planning horizon to the year 2030. The 2030 LRP Update has been prepared in accordance with Federal Highway Administration and Federal Transit Administration requirements for Metropolitan And Statewide Planning. An overview of the Wasatch Front Regional Council and the specific committees that assisted in the development of 2030 LRP Update is found in Appendix A.

The Wasatch Front Urban Area 2030 LRP Update recommends improvements to highways, transit, and other modes to meet the transportation needs of the region over the next 30 years. The planning policies and recommendations of the 2030 LRP Update are prepared under the guidelines of the Transportation Equity Act For The 21st Century (TEA-21). The 2004-2030 Long Range Transportation Plan Update conforms to the goals and objectives defined in the Utah State Air Quality Implementation Plan, considers multimodal alternatives, and supports local communities' existing and planned land uses.

OVERVIEW OF THE 2030 UPDATE PROCESS

Purpose For The 2030 Update

Federal regulations governing the development of transportation plans and programs in Urbanized Areas require Metropolitan Planning Organizations to update their Long Range Transportation Plans every three years. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 takes advantage of the latest socioeconomic growth forecasts, projected increases in travel demand for the region, and changes in the priority of various planned transportation improvement facilities. Periodic updates to the Long Range Transportation Plan allow for new information to be incorporated and recommended additions to the list of highway and transit projects to be made. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 specifies a coordinated system of highways, freeways, arterial streets, transit facilities, transit hubs, intermodal centers, park-and-ride lots, airport facility improvements, freight movement corridors, pedestrian paths, and bicycle routes. A 27-year planning horizon was selected for this Long Range Transportation Plan update effort and the 2030 Long Range Transportation Plan Update covers the planning period from the year 2004 until 2030.

Past Planning Efforts

The first comprehensive, regional transportation planning efforts in the Wasatch Front Urban Area began in the early 1960's. At that time, the Utah Department of Transportation worked with local governments in the Wasatch Front Region to develop an area-wide Long Range Transportation Plan for 1980. As part of this study and analysis, an origin-destination survey was conducted to develop travel forecasting models for projecting future traffic flows for the region.

In the mid-1970's, a major update to the Wasatch Front Region's Long Range Transportation Plan was undertaken by the Wasatch Front Regional Council. The objective was to extend the LRP to the planning horizon of 1995 and to take into account the changes in development patterns and travel behavior that had occurred since the first LRP was adopted. The 1979 LRP, with a planning horizon out to 1995, consisted of Technical Report 13 for the Salt Lake Urbanized Area and Technical Report 19 for the Ogden Urbanized Area. This LRP was approved, published, and distributed in September 1979.

In the 1980's, a second major update to the Wasatch Front Region's Long Range Transportation Plan was undertaken by the WFRC. This update effort extended the LRP's time horizon to 2005. While earlier Long Range Transportation Plans had developed a good master plan for future transportation facilities with an emphasis on highways, many of the facilities would not be needed during the time frame of the plan and funding for other projects would not likely be available. The LRP developed in 1987 took a slightly different approach and made recommendations to address the projected needs for the year 2005. The WFRC also developed a separate plan for facilities needed beyond 2005 as a guide for local communities to use in future local transportation planning. The 2005 LRP was approved by the Wasatch Regional Council in 1987 and consists of Technical Report 22 for the Salt Lake Urbanized Area and Technical Report 23 for the Ogden Urbanized Area.

With the passage of the Intermodal Surface Transportation Efficiency Act in 1991, the Wasatch Front Long Range Transportation Plan was now required to include a financial element showing how the recommended projects and facilities could reasonably be implemented. This financial constraint meant that some needed projects could not be included in Long Range Transportation Plan recommendations. In 1993, the Wasatch Front Regional Council adopted an interim LRP to address the financial requirements and other criteria established by ISTEA. The Wasatch Regional Council approved a final Long Range Transportation Plan in 1995. This LRP, which had a planning horizon out to the year 2015, addressed ISTEA requirements. Three reports were published, including Technical Report 32, *The Salt Lake Area Long Range Plan*, Technical Report 33, *The Ogden Area Long Range Plan*, and Technical Report 34, *The Financial Plan For The Wasatch Front Region Transportation Plans*.

A comprehensive Long Range Transportation Plan for 2020 was developed and approved by the Wasatch Front Regional Council in October 1998 for the Salt Lake and Ogden Urbanized Areas. This LRP effort placed greater emphasis on public transit improvements than previous Long Range Transportation Plans, and identified a system of fixed guideway light rail and regional commuter rail facilities. The Long Range Transportation Plan was documented and summarized in a series of technical reports, including Technical Reports 35, 36, 37, and 38.

The Long Range Transportation Plan was revisited beginning in January 1999. The Salt Lake and Ogden Urbanized Areas, treated in the past as two separate and distinct geographic jurisdictions for population projections, travel demand analysis, needs assessment, recommended transportation projects, and supporting documentation, were combined into the larger, more complete Wasatch Front Urban Area for the purposes of this particular planning effort. The Long Range Transportation Plan and supporting documentation, entitled the *Wasatch Front Urban Area Long Range Transportation Plan: 2002-2030*, was approved and adopted by the Wasatch Front Regional Council in December 2001. The 2002-2030 LRP was designated Technical Report 40. Technical Report 41, entitled the *Wasatch Front Urban Area Long Range Transportation Plan: 2002-2030 Financial Plan*, along with an appendices and executive summary, provided supporting documentation to the 2002-2030 Long Range Transportation Plan.

These previous regional transportation planning efforts provided the ground work for the current Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The 2030 LRP Update builds on the recommendations and priorities established in earlier Long Range Transportation Plans.

In the 2000 United States Census, the Ogden Urbanized Area became the Ogden/Layton Urbanized Area, which incorporated portions of Davis that was formerly included in the Salt Lake Urbanized Area.

Transportation Planning Organization And Committees

The development of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 required the involvement, cooperation and coordination of various federal, state, local, and public organizations and committees. The WFRC worked closed with a number of agencies and organizations to ensure that the 2030 LRP Update serves the needs and values of the region for which it is developed. The LRP planning process utilized input and recommendations from the groups listed in Table II-1.

Table II-1

2030 LONG RANGE TRANSPORTATION PLAN UPDATE
PARTICIPATING ORGANIZATIONS AND COMMITTEES

Federal Agencies	Federal Highway Administration (FHWA) Federal Transit Administration (FTA) Federal Aviation Administration (FAA) U.S. Environmental Protection Agency (EPA)
State Organizations	Utah Department of Transportation (UDOT) Utah Division of Air Quality (DAQ)
Local Governments	Wasatch Front Regional Council (WFRC) Transportation Coordination Committee (TransCom) Utah Transit Authority (UTA) Salt Lake County Council of Governments Davis County Council of Governments Weber Area Council of Governments Salt Lake Area Transportation Technical Advisory Committee Ogden/Layton Area Transportation Technical Advisory Committee City and County Planners and Engineers
General Public	Public Open Houses LRP Stakeholders Group Outreach interviews with select special interest groups

In addition to the above organizations, the WFRC prepared a special mailing to various federal, state, local, and private resource agencies requesting early participation and input into the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. These organizations included the U.S. Army Corps of Engineers, Utah Department of Natural Resources, U.S. Fish And Wildlife Services, Governor's Office of Planning and Budget, Utah Department of Agriculture, Natural Resources

Conservation Service, Utah Geological Survey, Utah Open Lands, Utah Division of State History, Utah Division of Water Resources, Utah Division of Water Quality, Jordan Valley Water Conservancy District, Utah Wildlife Resources, Utah Heritage Foundation, and various regional school districts to be part the 2030 LRP Update process, analysis, and solution development. These groups provided early identification of key concerns and solution development, including the type and scope of needed transportation projects.

Review Of 2030 LRP Update Planning Process

The Wasatch Front Regional Council utilized a general planning model to guide the preparation of the 2004-2030 Long Range Transportation Plan. This model calls for (1) problem identification, (2) goals and objectives, (3) alternative concepts, (4) preferred alternative, (5) implementation, and (6) assessment and evaluation. This simple but effective model provides a straightforward approach to the complex task of planning for projected regional transportation growth and demand.

The planning process for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 began in November 2001 when the Wasatch Front Regional Council approved a motion requesting that the WFRC staff, in cooperation with other agencies and individuals, identify opportunities for additional transit service in the Region. A special task force, known as the 2030 Transit Committee, was formed and included elected officials from the Wasatch Front Regional Council and the Mountainland Association of Governments, along with representatives from Envision Utah, UTA, UDOT, Kennecott Development Company, the Future Moves Coalition, the Utah Manufacturers Association, the Salt Lake, Davis, Weber, and Utah County Chambers of Commerce, and several private interest groups.

During September and October 2002, the Transit 2030 Committee organized a series of region-wide "Transit Presentation and Workshops" in Weber, Davis, Salt Lake, and Utah Counties to facilitate this planning effort. Elected officials and representatives of each community and county, including mayors, city administrators, council members, city planners and planning commissioners, were invited to attend and help answer the question, "What would you like transit to do for your community?" Input from these workshops helped identify 66 potential region-wide transit corridors.

The WFRC organized the Land Use and Transportation Sub-Committee of the Regional Growth Committee in December 2001. A series of "Land Use and Transportation Symposiums" were organized and held in April and May of 2002. These symposiums helped gather information on needed highway and transit improvements from a local community perspective. County planners, engineers, council members, planning commissioners, city managers and elected officials participated in this outreach effot.

Urban planners, engineers, city managers or elected officials from each city and county in the Wasatch Front Region presented an overview of their general land use plans and important transportation issues to their fellow professionals. The Land Use and Transportation Symposiums helped educate the WFRC staff and attendees on each individual city or county's development priorities, important land use issues, and potential transportation conflicts. In addition to facilitating an important exchange of information, the Land Use and Transportation Symposiums helped created a list of land use and open space issues, transportation concerns, and possible solutions. These solutions helped guide the recommendations found in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. A summary of the three county-wide Land Use and Transportation Symposiums is found in Appendix A.

Throughout the 2030 LRP Update process, additional meetings were scheduled with local elected officials as well as planners from UDOT and UTA. These meetings helped the WFRC identify specific transportation problems, areas of concern, and the need for specific transportation improvement projects. The information provided by these professionals was compiled and analyzed as part of the LRP's needs assessment and problem identification task. Additional steps in developing the 2030 LRP Update included the consideration of revised socioeconomic projections, updated traffic modeling and needs analysis, and the development of alternative strategies. The planning steps in the Wasatch Front Urban Area Long Range Transportation Plan: 2004-2030 are detailed in Figure II-1.

Socioeconomic Projections - Utilizing population information received from the Governor's Office of Planning and Budget, the WFRC generated population and employment projections for approximately 800 traffic zones throughout the Wasatch Front Region. These projections were reviewed by community planners, engineers, and locally elected officials allowing for adjustments to be made to this important component of the 2030 LRP Update. Population projections indicate that the Wasatch Front Urban Area will increase over the next 27 years from 1,334,000 persons to approximately 2,139,000 persons.

Highway And Transit Needs Analysis - Regional traffic modeling, utilizing projected 2030 population, employment, and transportation mode choice information, was performed and analyzed. Projected traffic volume and highway capacity ratios were mapped, allowing the WFRC to locate areas of potential concern. Information was also gathered on the Wasatch Region's pedestrian safety and vehicle accident rates. Additional needs analysis steps included an inventory of UTA bus and light rail service areas and operational frequency, transit park-and-ride locations, and other facilities.

Strategy Development - A regional land use inventory and environmental data base were generated for the 2030 LRP Update. These data assisted in the preparation and analysis of alternative transportation solutions. Four alternative transportation alternatives were developed and evaluated. Each alternative was based on different financial assumptions, ranging from a low "status quo" funding amount to an optimistic funding level. Based on the amount of available funding, the 2030 LRP Update alternatives presented a different combination of highway and transit projects. The four transportation alternatives were examined by local planners and engineers, UDOT, UTA, elected officials, the 2030 LRP Update Stakeholders Group, and the general public.

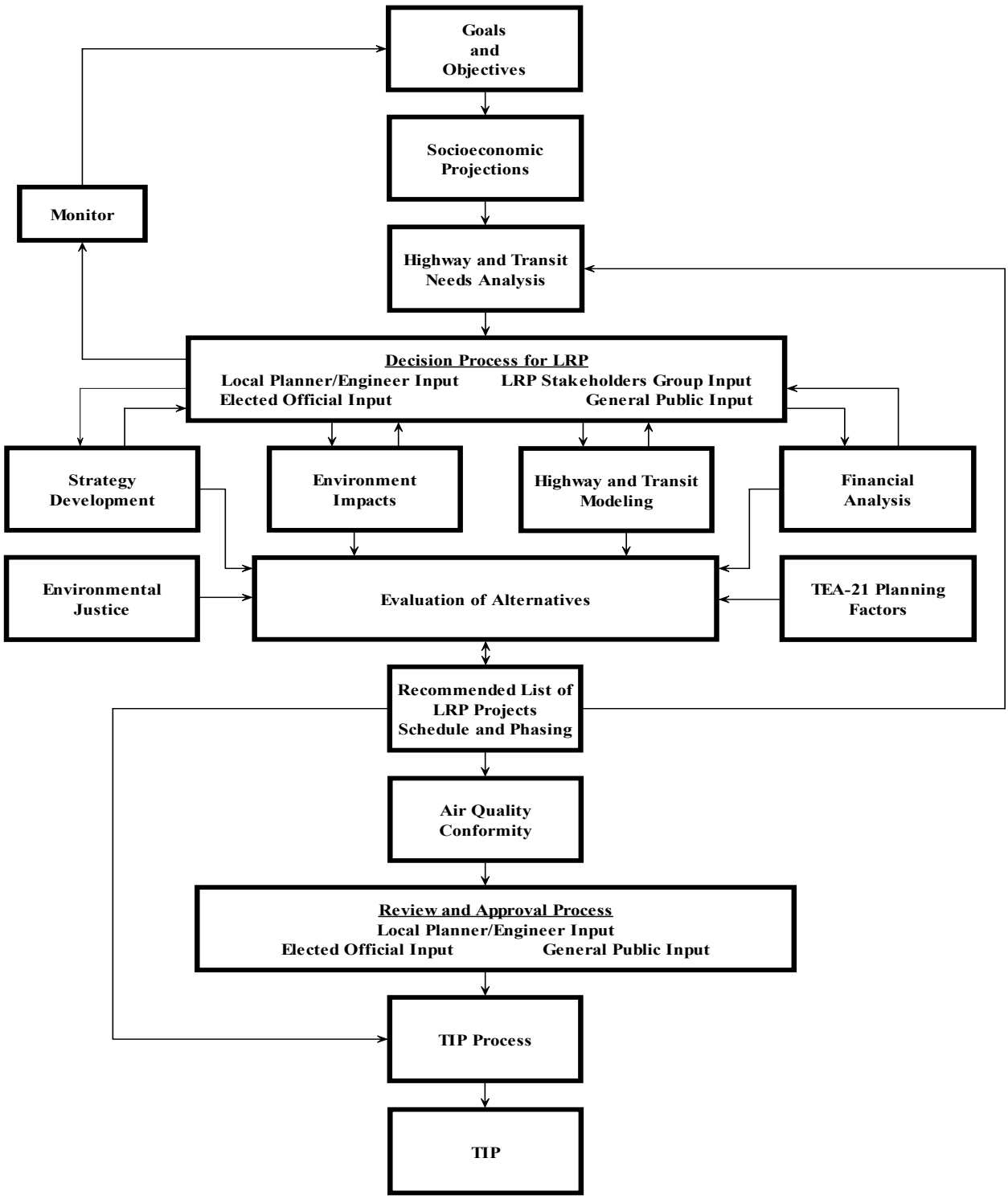
Review of Public Involvement

The Wasatch Front Regional Council solicits public participation and integrates oral and written comments received into the planning process. Input to the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 was requested from various groups including the LRP Stakeholders Group, private organizations, citizen groups, local special interests, and the general public. The WFRC considered the comments received from these groups and individuals in both the draft and final document. A summary of the public review process and involvement in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 can be found in Appendix B.

LRP Stakeholders - The WFRC formed the Wasatch Front Urban Area Long Range Transportation Plan Update Stakeholders Group to obtain input from a wide variety of community representatives concerning the region's transportation goals, issues and alternative solutions. Representatives from Davis County Tourism, Sierra Club, Assist, University of Utah, the Davis County.

Figure II-1

WASATCH FRONT REGIONAL COUNCIL
LONG RANGE TRANSPORTATION PLANNING PROCESS



Chamber of Commerce, Salt Lake City Mayor's Bicycle Advisory Committee, League of Women Voters, Coalition For Liveable Streets, Friends of the Great Salt Lake, Salt Lake Board of Realtors, Hill Air Force Base, and various community councils participated. These individuals helped identify transportation related problems and issues, suggested possible solutions to meet growing travel demand, assisted in developing the LRP's alternatives, and provided comments on the draft 2004-2030 Wasatch Front Urban Area Long Range Transportation Plan Update document.

Special Interest Outreach - Approximately 20 outreach visits were conducted with various special interest groups and organizations, including those representing low-income families, the elderly, minorities, and persons with disabilities. This special interest outreach effort included meetings with Utah Issues, the Salt Lake Community Action Program, the Indian Walk-In Center, Crossroads Urban Center, La Alianza Latina, Utah Coalition Del La Raza, the NAACP, the Utah State Department of Community and Economic Development Minority Community Directors, the Disabled Rights Action Committee, the Salt Lake City Transportation Advisory Committee, and the Salt Lake County Division of Aging and Adult Services. These meetings were designed to gather information to help the 2004-2030 Long Range Transportation Plan Update meet the needs of these interest groups.

Public Open Houses - A series of four public open houses held in Salt Lake, Davis, and Weber Counties were scheduled between November 2002 and October 2003. The public open houses were preceded by notices and advertisements in local newspapers. Three press conferences were held with local newspapers and the stories published on the 2030 LRP Update helped to generate public interest.

The first and second series of public open houses served as scoping opportunities to gauge public opinion as to perceived needs and transportation improvements. The third series provided a forum to receive input on the four highway and transit alternatives developed as part of the 2030 LRP Update planning process. The fourth series of public open houses, held in October 2003, presented the draft Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 for public review and comment. The WFRC staff compiled written comments and summarized verbal comments received from the public after each open house and prepared a written response to each concern.

The WFRC prepared a draft document of the Wasatch Front Urban Area Long Range Transportation Plan: 2004-2030 in September 2003 for distribution to interested public agencies, elected officials, local communities, and the general public. A formal public review period was held during October of 2003. Interested persons and groups were invited to review and offer comments on the 2030 LRP Update in either formalized public open houses or individually at their convenience. The finalized document was reviewed and approved by the Wasatch Front Regional Council on December 18, 2003. Copies of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 are available through the Wasatch Front Regional Council office, the WFRC website, and select local area libraries.

LEGISLATIVE OVERVIEW

The Transportation Equity Act for the 21st Century (TEA-21), passed by the U.S. Congress in 1998, authorizes highway, highway safety, transit, and other federal surface transportation programs through the year 2003. It continues and expands the programs established by the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. Both transportation acts placed greater emphasis on planning and identified several planning factors that must be addressed.

The current federal legislation, TEA-21, requires metropolitan planning organizations to consider transportation projects and strategies within the context of seven general factors or goals. These goals are designed to assist transportation planners and engineers in developing comprehensive solutions to area travel demand needs. The goals and objectives of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 are consistent with TEA-21's planning factors for improving transportation system management, operation, efficiency, and safety. The TEA-21 factors to be considered in developing regional transportation plans are listed in Figure II-2.

Figure II-2

TEA-21 FACTORS TO BE CONSIDERED IN DEVELOPING REGIONAL TRANSPORTATION PLANS

The metropolitan transportation planning process for a metropolitan area shall provide for consideration of projects and strategies that will:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety and security of the transportation system for motorized and nonmotorized users.
3. Increase the accessibility and mobility options available to people and for freight.
4. Protect and enhance the environment, promote energy conservation, and improve quality of life.
5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
6. Promote efficient system management and operation.
7. Emphasize the preservation of the existing transportation system.

The United States Department of Transportation has developed and published requirements for metropolitan transportation planning and programming. Specific regulations cover transportation planning tasks, work program, plan development, and content. The 2004-2030 LRP Update was prepared in accordance with Federal Highway Administration (23 CRF, Part 450) and Federal Transit Administration (49 CFR, Part 613) requirements found in the Code of Federal Regulations.

Long Range Plan Requirements

In accordance with TEA-21 requirements, the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommends improvements to highways, transit, and other travel modes to meet the transportation needs of the region over the next 30 years. The list of highway and transit facility improvements found in the 2030 LRP Update supports the economic vitality of the region, increases accessibility, mobility, and safety, enhances integration and connectivity, and promotes efficient system management, operation, and preservation of the transportation system. The Wasatch Front Urban Area 2030 LRP Update is financially constrained, provides public involvement opportunities, conforms to state air quality requirements, considers multimodal alternatives, utilizes available intelligent transportation system technologies, promotes travel demand management strategies, and supports existing and planned land use.

GOALS AND OBJECTIVES

During the 1970's, the Regional Council established goals and objectives to guide the development of regional Long Range Transportation Plans . The Long Range Transportation Plan's goals and objectives are used to evaluate how well alternative travel demand strategies and recommended highway and transit improvements meet the transportation needs of the Region. The goals and objectives reflect the ideas, suggestions, and desires of participating communities, elected officials, and the general public. The LRP planning process required a reevaluation and revision of existing goals and objectives.

In November 1999, the WFRC staff met with several public groups to solicit input to the Long Range Transportation Plan goals and objectives. These groups include stakeholders from various private organizations and interest groups, the Salt Lake and Odgen/Layton Area Technical Committees, the Transportation Coordinating Committee and the Wasatch Front Regional Council itself. Based on the input from these varied groups, the Wasatch Front Regional Council adopted updated goals and objectives for the transportation planning process within the region in March 2000.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 utilized the same goals and objectives that guided the previous planning effort, the Wasatch Front Urban Area Long Range Transportation Plan: 2002-2030. The WFRC goals and objectives are provided in Figure II-3.

Figure II-3

GENERAL GOALS AND OBJECTIVES
WASATCH FRONT URBAN AREA TRANSPORTATION PLANNING PROCESS

I. GOAL: Provide a balanced, interconnected transportation system with a range of convenient, efficient, and economical choices.

OBJECTIVES:

1. Provide a system with alternative transportation modes including highways, bus transit, rail transit, bicycle, pedestrian, etc.
2. Enhance system integration and connectivity through intermodal centers and other means for both passenger travel and freight movement.
3. Utilize available intelligent transportation system technologies.
4. Implement appropriate transportation demand management and transportation systems management strategies.

II. GOAL: Increase transportation mobility and accessibility for both persons and freight, thus promoting economic vitality in the region.

OBJECTIVES:

1. Minimize travel time.
2. Increase accessibility to employment for all persons in the region.
3. Increase accessibility to other major commercial, industrial, educational, medical, and recreational centers.
4. Provide for access to developing areas outside but adjacent to the region.

III. GOAL: Increase transportation safety and security for all modes of travel.

OBJECTIVES:

1. Minimize accidents on highways and transit systems.
2. Improve safety for pedestrians, bicyclists, and other non-motorized travelers.
3. Enhance security for transit systems.

IV. GOAL: Provide a transportation system that both protects and enhances the environment, promotes energy conservation, and improves the quality of life.

OBJECTIVES:

1. Provide a transportation system that both serves and complements desired community development standards and land use patterns as included in local master plans.
2. Minimize air, water, noise, and visual pollution.
3. Minimize disturbances of the region's natural aesthetics and wildlife habitat.
4. Protect community and neighborhood integrity and social cohesiveness by minimizing residential and business relocations.
5. Provide for needed highway and transit system enhancements.

V. GOAL: Protect existing and future transportation systems through ongoing maintenance, preservation, or reconstruction.

OBJECTIVES:

1. Maintain and preserve existing highway, transit, and other facilities in good condition.
2. Identify and protect corridors needed for future highway, transit, freight, or other transportation system requirements.
3. Promote access management for arterial and collector streets.

The goals and objectives of the 2030 LRP Update include a greater emphasis on transit, bicycle, and pedestrian concerns, along with the desire to take advantage of improved congestion management technologies. These goals and objectives also address the need to mitigate the potential social, economic, and environmental impacts that transportation improvements might cause. Finally, the goals and objectives of the 2004-2030 Long Range Transportation Plan Update are consistent with federal requirements found in TEA-21 legislation.

III. GENERAL AREA CHARACTERISTICS

GENERAL AREA CHARACTERISTICS

The growth and distribution of the Wasatch Front population and employment will continue to have a significant impact on the transportation needs of the future. Increases in regional population and employment translate into a growing demand for travel. In addition, the number of miles driven continues to increase. The amount and distribution of growth provide insights into the type, size and location of new transportation facilities required to meet present and future travel demand, including new highway projects, transit improvements, and transportation facilities for bicycles and pedestrians.

PHYSICAL CHARACTERISTICS

Area Description

The Wasatch Front Urban Area is located in the northern part of Utah. The Urban Area is comprised of the developed regions of Salt Lake, Davis and Weber Counties. In general, the Area is bounded by the Great Salt Lake and the Oquirrh Mountains on the west, the Wasatch Mountains on the east, Utah County on the south and Box Elder County on the north. The boundaries of the Wasatch Front Urban Area are graphically shown in Map III-1.

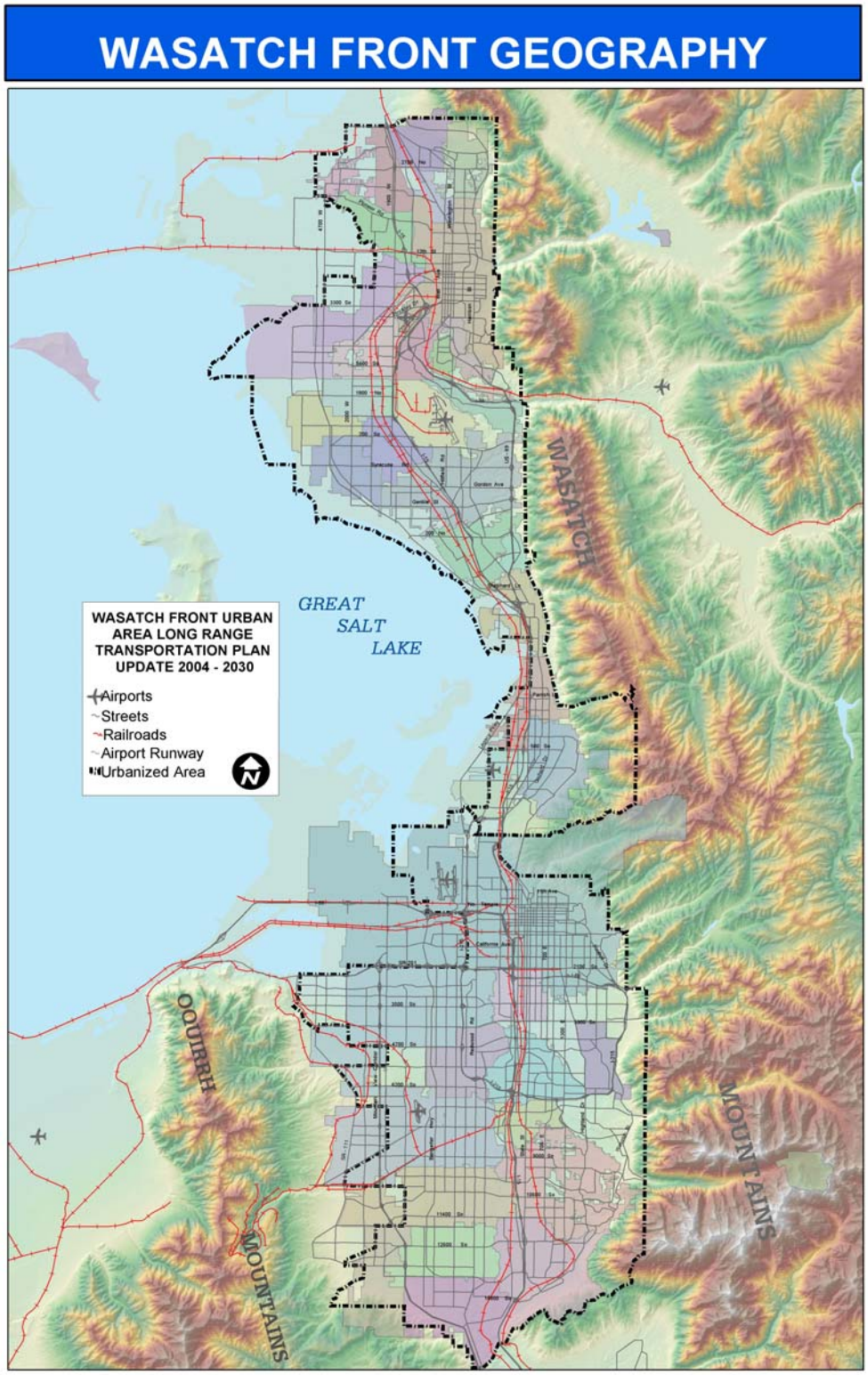
Transportation Network

The geographic constraints on the area have created a linear region that stretches more than 60 miles north to south, from the city of Pleasant View in the north to Bluffdale City in the south. At its widest, it is only 15 miles wide. This unique geographic layout has resulted in the development of a transportation system that is focused on the north-south movement of goods and people.

Many of the areas along the Wasatch Front have street layouts based on the "Plat of Zion", implemented by Brigham Young when the Mormon Pioneers permanently settled the area beginning in1847. This concept is based on a grid of 10-acre blocks with wide streets. While the concept is apparent in central city areas, the suburbs deviate from it. Historically, the street network and connecting highways served the local areas. Intercity travel was via the Bamberger Railroad, which ran passenger service from Salt Lake City to Ogden from 1891 to 1952. In the 1950's, the federal government instituted the Interstate Highway System. Interstate 15 linked Salt Lake City, Ogden, and Provo together and with points north and south while Interstate 80 linked the area with points east and west.

The recently reconstructed 17-mile segment of I-15 through Salt Lake County forms the backbone of the north-south highway system through the Salt Lake Urbanized Area. Other major north-south facilities in Salt Lake County include Redwood Road, Bangerter Highway, State Street, 700 East, and 1300 East. Interstate 215 forms a three-quarter belt around Salt Lake County. Interstate 15 continues north through Davis and Weber Counties and joins Interstate 84 in Weber County. The other major north-south facility in Davis County is U.S. Highway 89. The narrow corridor between the Wasatch Mountains and the Great Salt Lake, limits the number of north-south facilities. Interstate 15 and U.S.

Map III-1


WASATCH FRONT GEOGRAPHY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Airports
Streets
Railroads
Airport Runway
Urbanized Area
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

Highway 89 both continue north through Weber County. Major east-west facilities of the Wasatch Front Urban Area include Interstate 80, Interstate 84, and the 2100 South Freeway. A series of principal arterial streets in Salt Lake, Davis, and Weber Counties also provide for east-west travel. In addition to the street network, public transportation, in the form of buses and light rail trains, provide service throughout the region. The Utah Transit Authority (UTA) operates light rail service from Sandy to downtown Salt Lake City, with an extension between downtown and the University of Utah. UTA also provides bus service in six counties along the Wasatch Front, including Salt Lake, Davis, and Weber Counties. A recently approved sales tax increase will allow for a significant expansion of the current bus service. In addition to these bus transit service improvements, a commuter rail line and extensions to the TRAX system are under study.

The region is well served by air transport. In 2000, the Salt Lake City International Airport was the 24th busiest in North America in the number of boardings (8.9 million) and in cargo (606,466 tons) and is the centerpiece of the region's air service. General aviation is also served by Salt Lake Municipal Airport Number Two, Tooele Airport, Ogden-Hinckley Airport, Morgan County Airport, and Sky Park Airport. Additionally, a significant military air presence is located at Hill Air Force Base.

A series of trails serves the Wasatch Front's non-motorized segment of transportation. A recently completed pedestrian bridge over Interstate 80 at the mouth of Parleys Canyon linked two sections of the Bonneville Shoreline Trail. The Jordan River Parkway runs almost the entire length of Salt Lake County along the Jordan River.

SOCIOECONOMIC CHARACTERISTICS

The current distribution of growth along the Wasatch Front is expected to continue into the future. Population growth and new commercial development are expected to occur in relatively undeveloped areas of the region. Southwest Salt Lake County, northwest Davis County, and western and northern Weber County are projected to experience the highest growth rates over the next 30 years. Tooele County, to the west, is projected to more than double its population to 97,055. A significant portion of this increase is expected to commute to Salt Lake County to work. Recent census data shows that approximately 40 percent of Tooele County workers commute to Salt Lake County. The limited growth in the mostly developed areas of the Wasatch Front Urban Area can be attributed to infill and redevelopment as well as neighborhood turnover. In addition to Tooele County, growth in Utah and Summit Counties is also expected to have an effect on the travel patterns and transportation investments in the Wasatch Front Region. Table III-1 shows the projected growth of population, employment, and housing units from 2000 to 2030.

Population Trends

The counties that comprise the Wasatch Front Region are all projected to experience rapid population growth. The projected growth can be attributed to a strong economy, desirable community standards, and the nation's highest birthrate. In the 2000 Census, Utah had the largest household size at 3.13 persons per household in the nation, compared to the national average of 2.59. Estimates by the Governor's Office of Planning and Budget show that two-thirds of the projected growth in the state will come from natural increase, or the number of births minus deaths. Map III-2 shows the population change from the 1990 to 2000 Censuses. High growth areas can be seen in south and west Salt Lake

County, north Davis County, and north Weber County. The zones which show a decline can mostly be explained by housekeeping. For example, some housing units were deleted from the totals in the 2000 Census because local officials disputed their existence.

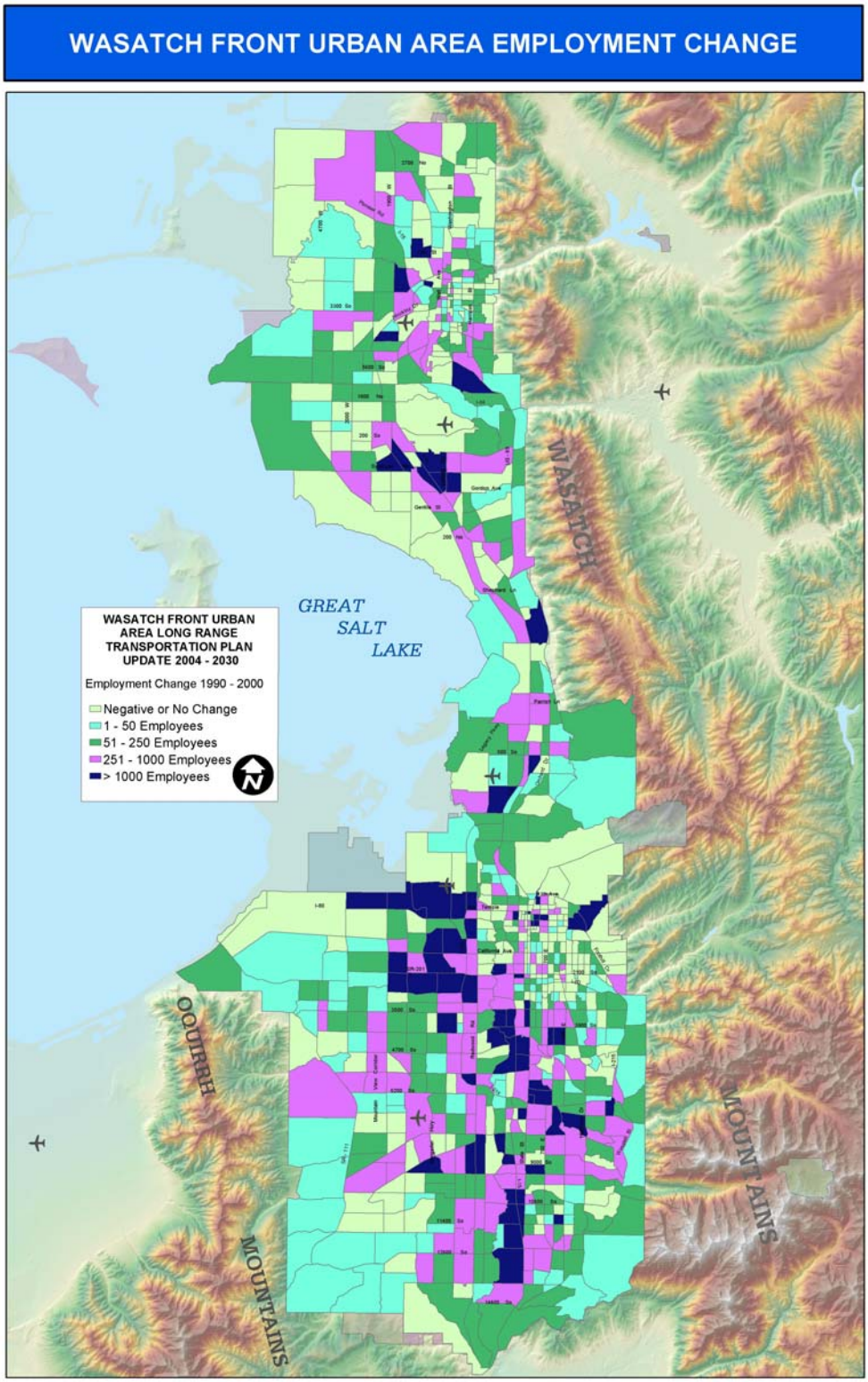
Table III-1

WASATCH URBAN AREA
2000 - 2030 SOCIOECONOMIC PROJECTIONS

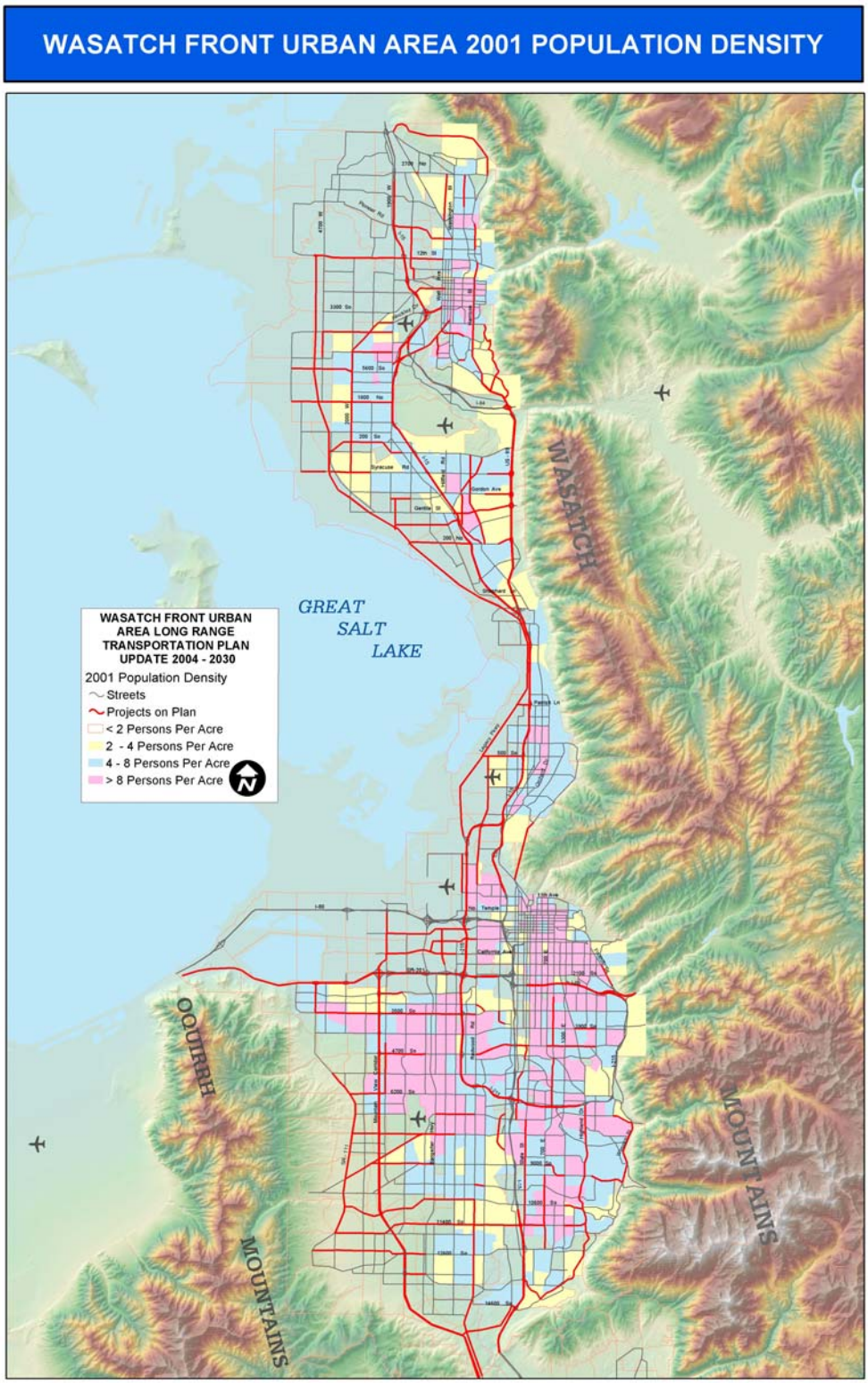
Area	2000 Population	2010 Population	2020 Population	2030 Population	% Growth 2000-2030
Davis County	238,994	292,201	347,412	386,672	61.8%
Salt Lake County	898,387	1,077,556	1,283,784	1,431,843	59.4%
Weber County	196,533	237,877	286,919	320,770	63.2%
Region	**1,333,914**	**1,607,634**	**1,918,115**	**2,139,285**	**60.4%**
Area	**2000 Households**	**2010 Households**	**2020 Households**	**2030 Households**	**% Growth 2000-2030**
Davis County	71,201	95,281	119,094	138,092	93.9%
Salt Lake County	295,141	371,312	458,906	528,491	79.1%
Weber County	65,698	81,414	99,699	113,835	73.3%
Region	**432,040**	**548,007**	**677,699**	**780,418**	**80.6%**
Area	**2000 HH Size**	**2010 HH Size**	**2020 HH Size**	**2030 HH size**	**Change 2000-2030**
Davis County	3.36	3.07	2.92	2.80	-0.56
Salt Lake County	3.04	2.90	2.80	2.71	-0.33
Weber County	2.99	2.92	2.88	2.82	-0.17
Region	**3.09**	**2.93**	**2.83**	**2.74**	**-0.35**
Area	**2000 Employment**	**2010 Employment**	**2020 Employment**	**2030 Employment**	**% Growth 2000-2030**
Davis County	84,839	106,039	124,662	136,965	61.4%
Salt Lake County	545,052	665,115	781,221	858,158	57.4%
Weber County	88,370	111,556	135,921	153,148	73.3%
Region	**718,261**	**882,710**	**1,041,804**	**1,148,271**	**59.9%**

Even with relatively large families, Utah is following the national downward trend in household size. As the population ages, birthrates fall and the household size decreases. There are areas in the region that will experience a slowing of population growth due to falling household sizes, while others will increase due to neighborhood recycling, where young families with children move into a neighborhood as the aging population dies. Examples of these phenomena are found in the 2000 Census. Sandy City's household size declined while Ogden's and Salt Lake City's increased due to changing demographics. Certain areas of the region will remain undeveloped into the future even with projected high growth. Many of these public and private lands will remain undeveloped because of specific environmental constraints, such as steep slopes or prime wetlands. Some areas currently being used for industrial or mining activity are planned to be reclaimed for other uses. For example, Kennecott Utah Copper Corporation is planning a 12,000-unit, mixed use development on 4,500 acres that it owns in South Jordan. Higher population densities are projected to be concentrated in the currently developed areas with the recent development occurring at lower densities in the outlying areas Population densities for the Wasatch Front Urban Area for 2000 and that projected for 2030 are shown as Maps III-3 and III-4.

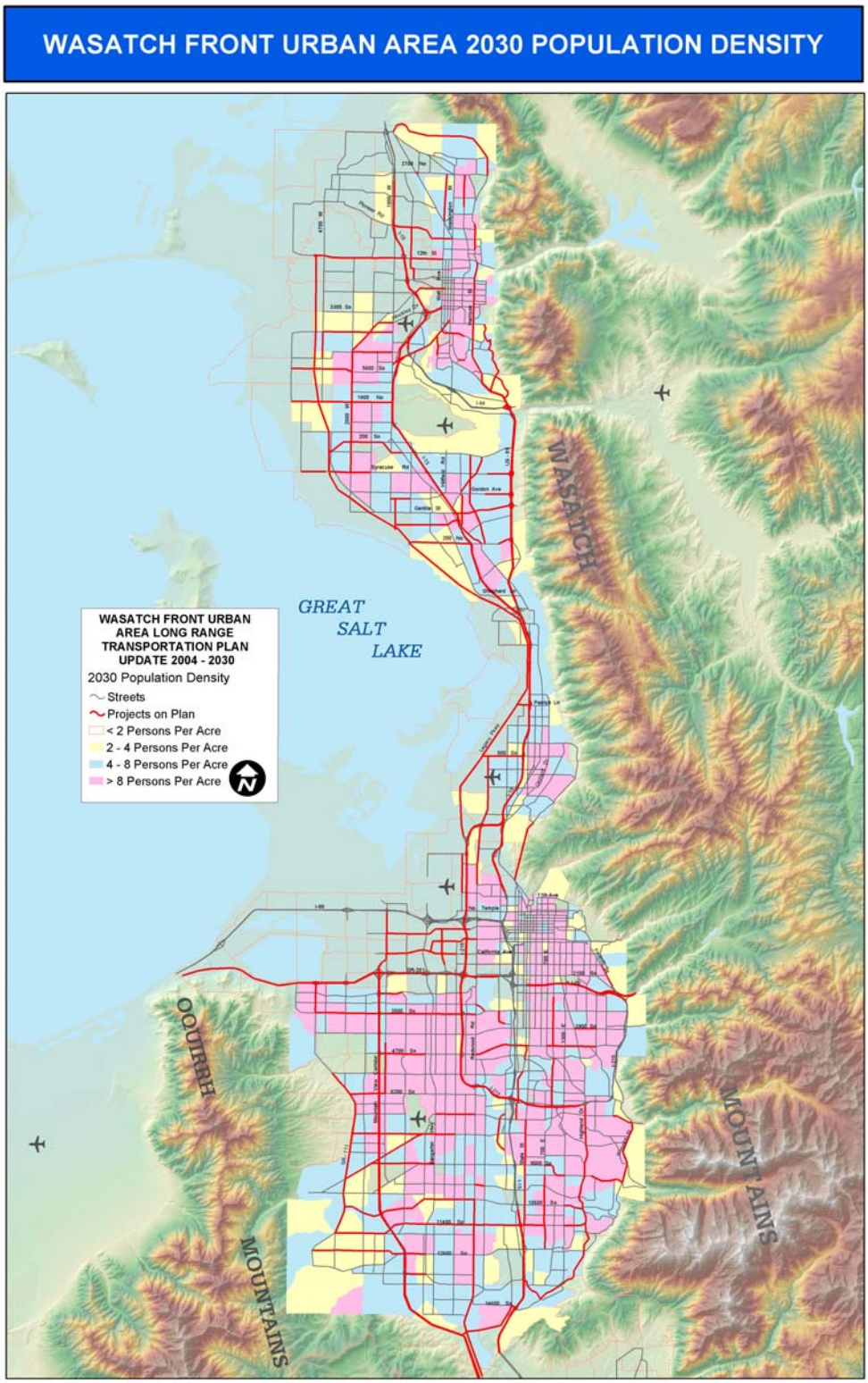
Map III-2


WASATCH FRONT URBAN AREA EMPLOYMENT CHANGE
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Employment Change 1990 - 2000
Negative or No Change
1 - 50 Employees
51 - 250 Employees
251 - 1000 Employees
> 1000 Employees
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map III-3


WASATCH FRONT URBAN AREA 2001 POPULATION DENSITY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
2001 Population Density
Streets
Projects on Plan
< 2 Persons Per Acre
2 - 4 Persons Per Acre
4 - 8 Persons Per Acre
> 8 Persons Per Acre
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map III-4


WASATCH FRONT URBAN AREA 2030 POPULATION DENSITY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
2030 Population Density
Streets
Projects on Plan
< 2 Persons Per Acre
2 - 4 Persons Per Acre
4 - 8 Persons Per Acre
> 8 Persons Per Acre
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Employment Trends

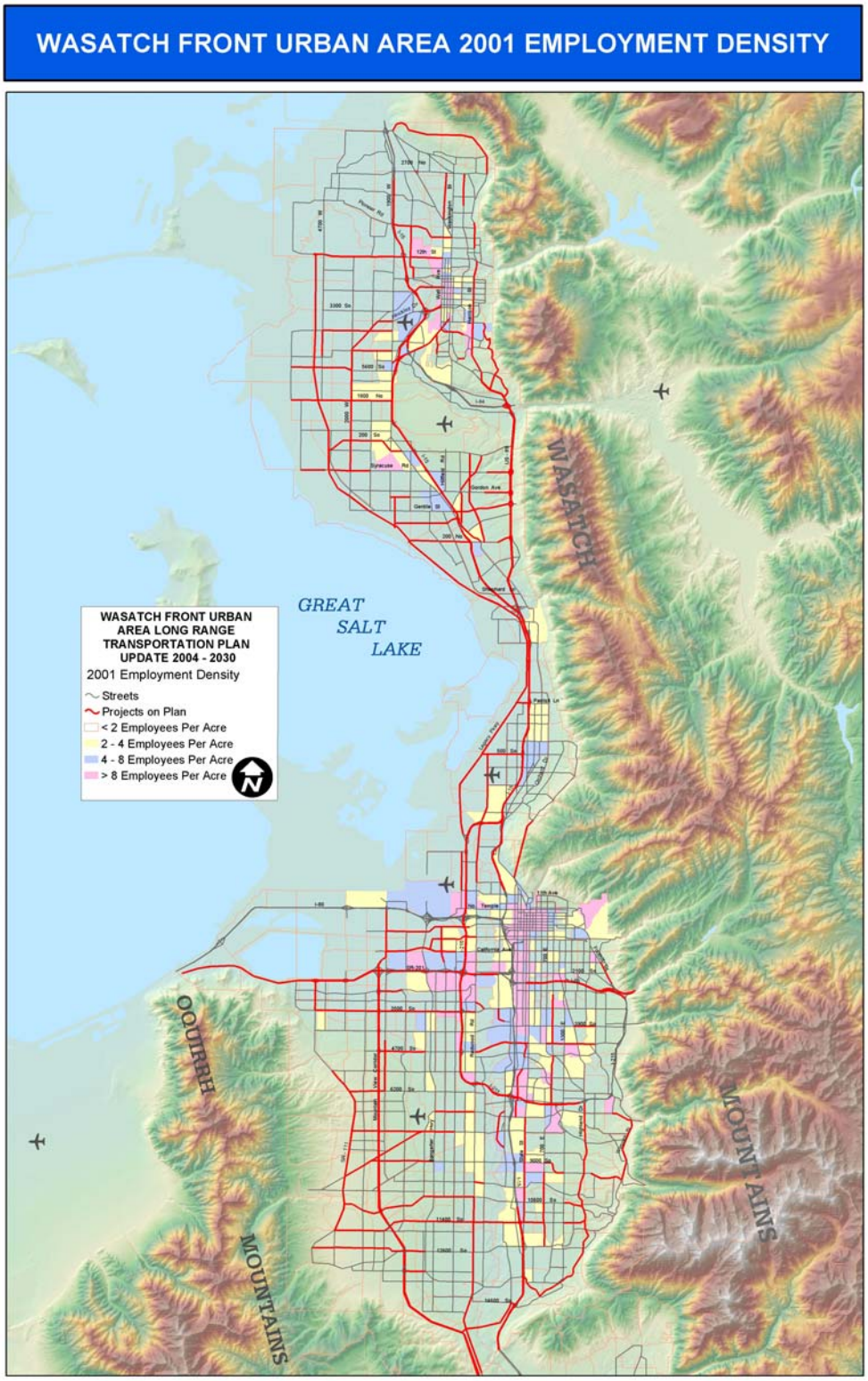
In the past, the regional economy was heavily dependent on a limited number of industrial sectors, primarily mining (Kennecott Utah Copper Corporation) and government/military (Hill Air Force Base, Internal Revenue Service). In the past 30 years, the region's economy has diversified. No longer dependent on a limited number of sectors, the economy is now based on the service sector and other industries, such as health care, education, and local government. Agricultural industries continue to decline in importance on a regional scale**.** Maps III-5 and III-6 show existing 2000 and projected 2030 employment density for the Wasatch Front Urban Area. The distribution of commercial and industrial development will remain much as it is today. New commercial development is projected in South Jordan, Riverton, and Tooele County. Additionally, dispersed areas of commercial development are starting to appear, such as the Fort Union/Union Park area, Cottonwood Corporate Center, and Jordan Landing. Small pockets of neighborhood scale commercial development are expected throughout the region in an effort to make neighborhoods more pedestrian-friendly. Large employment centers, such as Hill AFB, University of Utah, Salt Lake City International Airport, and the downtown CBDs will need to be served with an improved transportation system. Changes in employment within the Wasatch Front Urban Area during the 1990's are shown in Map III-7. Much of the region experienced minimal change, up or down, during the past decade, while large swings can be seen in areas of high employment. The overall pattern shows that large employment gains are occurring in the suburban areas.

LAND USE CHARACTERISTICS

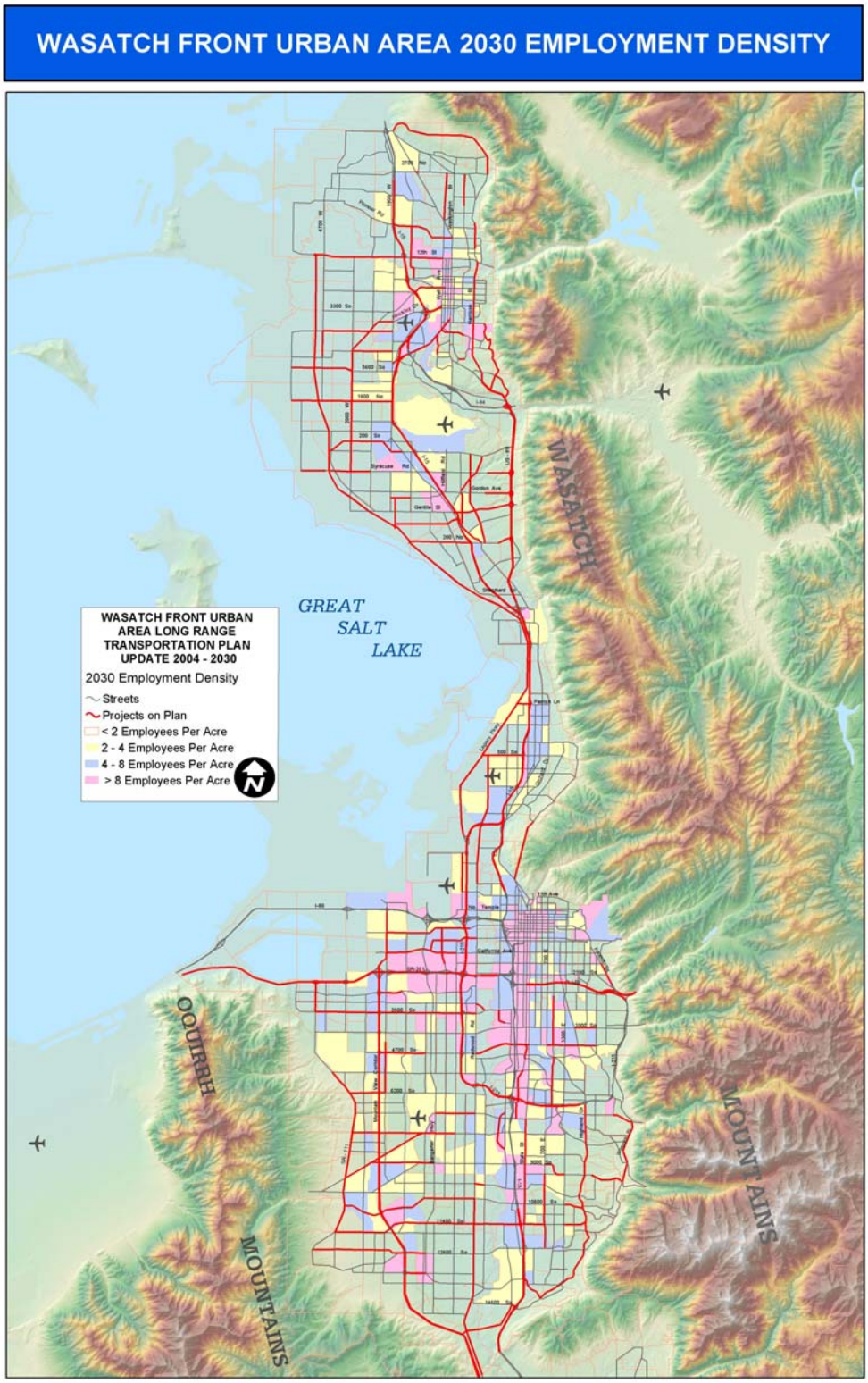
Under Utah State law, local cities and counties are responsible for setting land use policy in their areas. Projections for the Wasatch Urban Area Long Range Transportation Plan: 2002-2030 are based on individual city and county land use assumptions. A majority of the region is expected to be developed for residential uses. These local master plans call for relatively low-density development patterns, with some pockets of denser activity. This pattern holds true for non-residential development as well as residential development. Large areas of industrial/warehouse development are planned in western Salt Lake City, along the I-15 corridor, and around Hill Air Force Base. High-density office and commercial developments are focused mainly in the Salt Lake and Ogden central business districts, with smaller commercial areas located in southern Salt Lake County, northern Davis County, and southern Weber County. Additional, smaller nodes of commercial and retail development are dispersed throughout urban and rural portions of Salt Lake, Davis, and Weber Counties. Map III-8 is a compilation of master plan land use elements from cities and counties within the Wasatch Front Urban Area.

The future development pattern will be the major factor in the type and size of the transportation facilities that serve these newly developed areas. The Utah Quality Growth Act of 1999 created the Utah Quality Growth Commission to address the challenges and opportunities that growth brings to Utah. In addition, several public and private partnership planning efforts involved in smart growth initiatives have developed land use alternatives and growth scenarios. Envision Utah's outreach presentations provided local public officials and the general public the opportunity to examine the future consequences of various land use decisions. The growth scenarios ranged from the status quo land use planning to a demonstration of much greater density. These planning exercises and demonstrations proved beneficial in educating participants on what the future may hold for communities along the Wasatch Front.

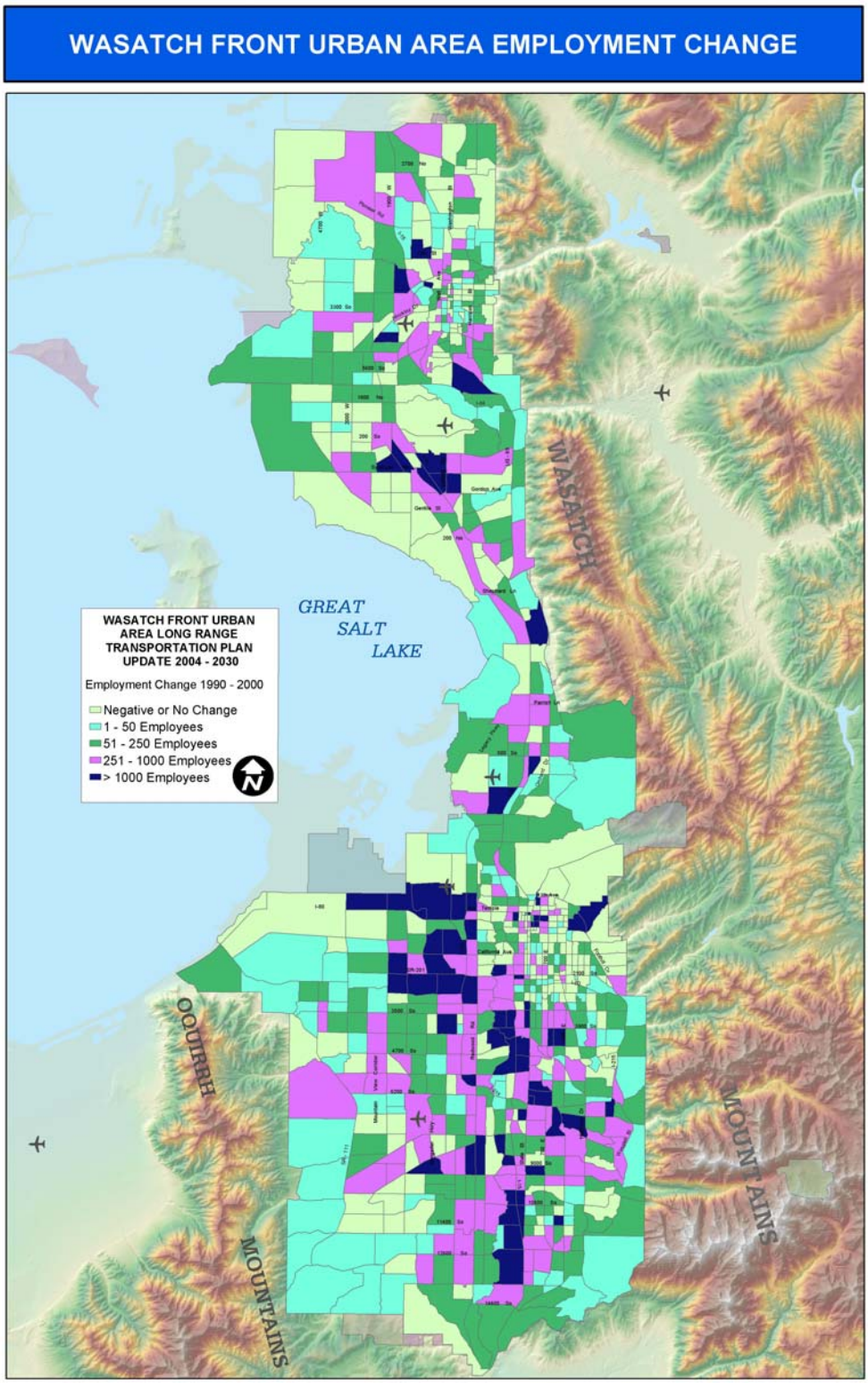
Map III-5


WASATCH FRONT URBAN AREA 2001 EMPLOYMENT DENSITY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
2001 Employment Density
Streets
Projects on Plan
< 2 Employees Per Acre
2 - 4 Employees Per Acre
4 - 8 Employees Per Acre
> 8 Employees Per Acre
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

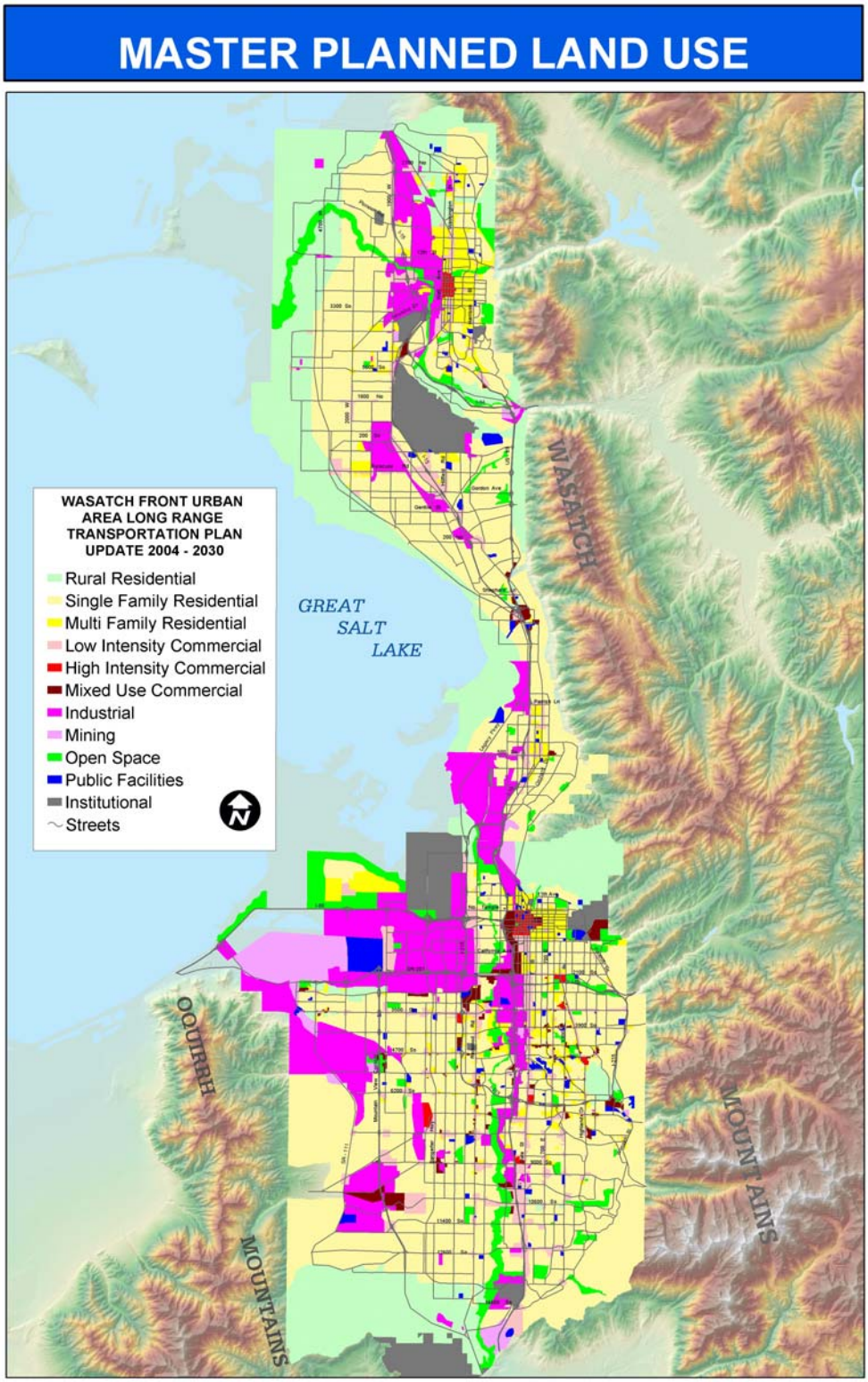
Map III-6


WASATCH FRONT URBAN AREA 2030 EMPLOYMENT DENSITY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
2030 Employment Density
Streets
Projects on Plan
< 2 Employees Per Acre
2 - 4 Employees Per Acre
4 - 8 Employees Per Acre
> 8 Employees Per Acre
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map III-7


WASATCH FRONT URBAN AREA EMPLOYMENT CHANGE
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Employment Change 1990 - 2000
Negative or No Change
1 - 50 Employees
51 - 250 Employees
251 - 1000 Employees
> 1000 Employees
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map III-8


MASTER PLANNED LAND USE
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Rural Residential
Single Family Residential
Multi Family Residential
Low Intensity Commercial
High Intensity Commercial
Mixed Use Commercial
Industrial
Mining
Open Space
Public Facilities
Institutional
Streets
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

General Land Use Patterns

A significant portion of Salt Lake, Davis, and Weber Counties is currently zoned for low density residential development. Some higher densities are allowed in eastern Salt Lake City, while the southeast and southwest areas of Salt Lake County are zoned for lower housing densities. Industrial land uses are planned for west Salt Lake City, along the I-15 corridor, northern West Valley City, the western portion of North Salt Lake, and the west side of Salt Lake County. Areas for commercial land uses include concentrations in Salt Lake City's central business district and along primary transportation corridors including I-15, I-215, State Street, 400 South, Highland Drive, 3500 South, 4500 South and 7200 South. Additional commercial land use nodes are dispersed throughout Salt Lake County and southern Davis County to serve adjoining residential communities. An extension of the existing transportation network will provide needed highway and transit service to newly developed land. As land use changes, so will the type and size of facilities needed to meet increased travel demand.

Future land use characteristics of the Ogden/Layton Urbanized Area will play a key role in determining the travel demand by the year 2030. Large portions of western Weber and North Davis Counties are currently zoned for low-density residential development. Some higher density housing is being built in Ogden City's Canyon Road Community. Industrial land uses are located at the redeveloped Business Depot Ogden (the former Ogden Defense Depot), Hill Air Force Base, the Ogden City Industrial Park and Clearfield's Freeport Center. Areas for commercial land uses include linear concentrations along major arterial roads including Riverdale Road, the southeastern portion of Harrison Blvd., 12th Street between Washington Blvd. and I-15, Hill Field Road near the Layton Hills Mall, State Street (Layton and Clearfield) and Main Street (Kaysville, Clearfield and Sunset). The McKay-Dee Hospital has moved to a new 62 acre location on Glassman Way. Additional commercial nodes are dispersed throughout the Ogden/Layton Urbanized Area to serve adjoining residential communities

Major Traffic Generators

One of the objectives of the Wasatch Urban Area Long Range Transportation Plan: 2002-2030 is to provide adequate transportation capacity and transit service to serve the future growth of the major traffic and transit generators located within the Salt Lake and Ogden/Layton Urbanized Areas. These traffic and transit generators are usually associated with large employment centers as well as with commercial office, retail and industrial land uses.

The most significant traffic and transit generator in the Salt Lake Urbanized Area is the central business district of downtown Salt Lake City, which contains several million square feet of commercial office and retail building space. This area is projected to continue to grow in employment and will remain the major traffic generator for the greater metropolitan region. Other major generators within the Salt Lake Urbanized Area are the University of Utah, including the associated Medical Center and Research Park and the Salt Lake International Airport. Major nodes of commercial development include Trolley Square, the Fashion Place Mall, Cottonwood Mall, Valley Fair Mall, Southtowne Mall, Jordan Landing, and the other office/retail developments of Union Park and the Fort Union Family Center. Nodes of industrial development include Centennial Park, Decker Lake Industrial Park, the International Center and the new Lake Park Corporate Center.

The principal Ogden/Layton Urbanized Area traffic generators are associated with large employment centers as well as with commercial office, retail and industrial land uses. The most significant traffic generator is Hill Air Force Base that employs over 10,000 skilled workers. This employment center is expected to remain the major traffic generator for the greater metropolitan region.

Other major generators within the Ogden/Layton Urbanized Area include Ogden City's Central Business District, Hill Air Force Base, Weber State University and the McKay-Dee Hospital Center. Major nodes of commercial development include the Lagoon Amusement Park, Layton Hills Mall, Newgate Mall, and other office/retail developments in Layton, Clearfield and Roy City. Major nodes of industrial development include the Ogden City Industrial Park, the Business Depot Ogden, the Clearfield Freeport Center and Roy City's Iomega complex located on 1900 West.

Travel Demand

The growth and distribution of population and employment in the Wasatch Front Urban Area will have a significant impact on the transportation demands in the year 2030. While a majority of the population growth is expected to occur in western and southwestern sections of Salt Lake, Davis, and Weber Counties, Salt Lake City will remain the dominant employment center in the Wasatch Front Urban Area. This anticipated growth will increase the need for north-south travel in the area, which is being addressed in part by the recently reconstructed I-15 and the completion of the north-south portion of the Utah Transit Authority's TRAX light rail transit system. In addition, the Salt Lake Urbanized Area's transportation system will need to serve the growing employment centers in suburban locations by addressing the east-west transportation demands and access to north-south freeways. Finally, travel in the Salt Lake Urbanized Area will increasingly be affected by the population and employment growth in the Ogden/Layton Urbanized Area to the north, the Provo/Orem Urbanized Area to the south, Summit County to the east and Tooele County to the west.

As the entire Wasatch Front Urban Area continues to grow, the interrelationships among all these areas will continue to increase. These ties will have significant travel demand impacts on the transportation facilities now and in the future. While a majority of the population growth in the Ogden/Layton Area is expected to occur in the northern and western communities of Weber County, and the northern portion of Davis County, Ogden City and Hill Air Force Base will remain the primary employment centers. The Ogden/Layton Area's transportation system will need to serve employment centers in suburban locations, such as Clearfield City's Freeport Center, by addressing east-west transportation demands. Travel demand will continue to grow in direct proportion to projected population increases. Finally, travel demand in the Ogden/Layton Urbanized Area will be increasingly affected by the population and employment growth in Davis and Salt Lake Counties to the south and, to a lesser extent, Morgan County to the east and Box Elder County to the north.

Safety

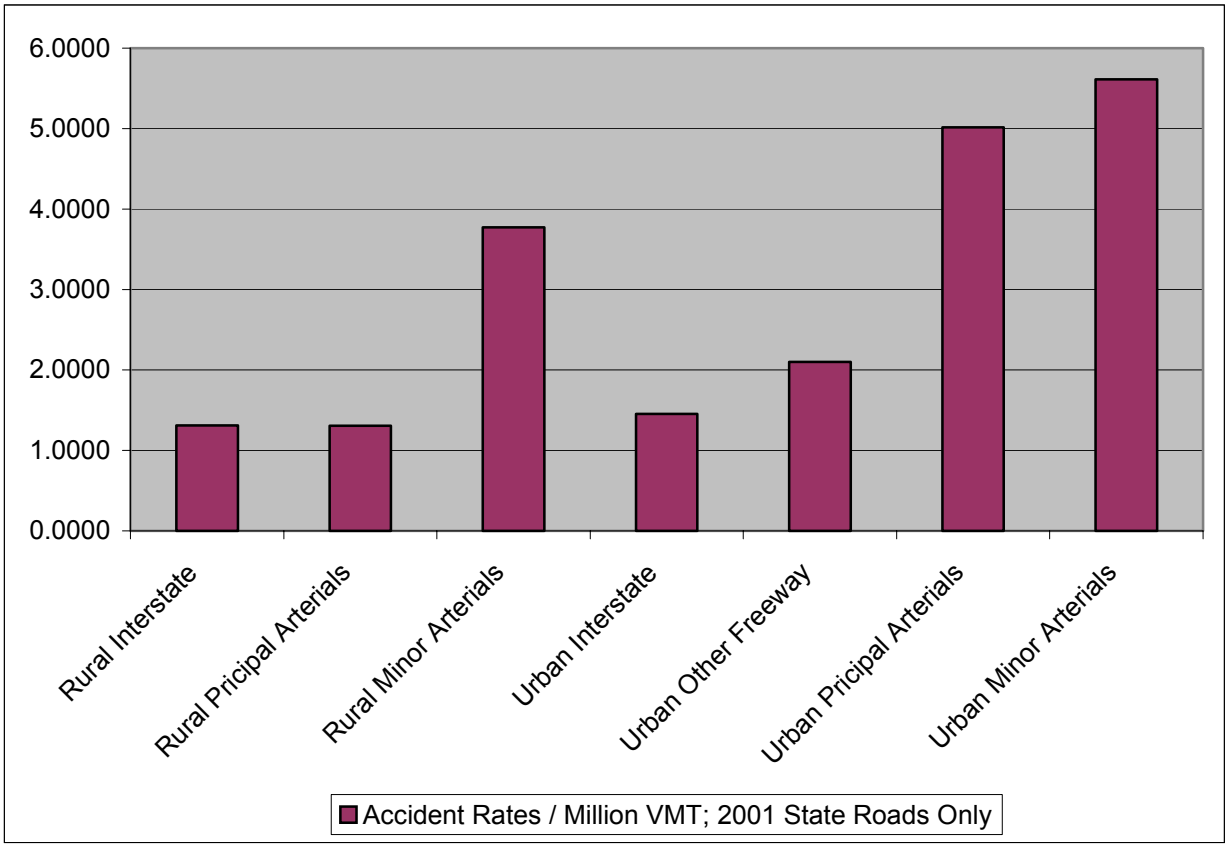
Safety is of primary importance in designing transportation facilities. Over the years, as highways have been better designed and vehicles made safer, accident rates and the number of fatalities have gone down. Automobile accident information was provided for 2001 for Salt Lake, Davis, and Weber Counties. Accidents rates were tabulated by road functional classification for every 1,000,000 vehicle

miles traveled (VMT). Road classifications include interstate and freeway, principal arterials, and minor arterials. As the result of higher safety design standards, the least amount of accidents per VMT occurred on interstates and freeways. The majority of the accidents per VMT occurred on the minor arterial roadways. Accident information for the Wasatch Front Urban Area is displayed in Figure III-1.

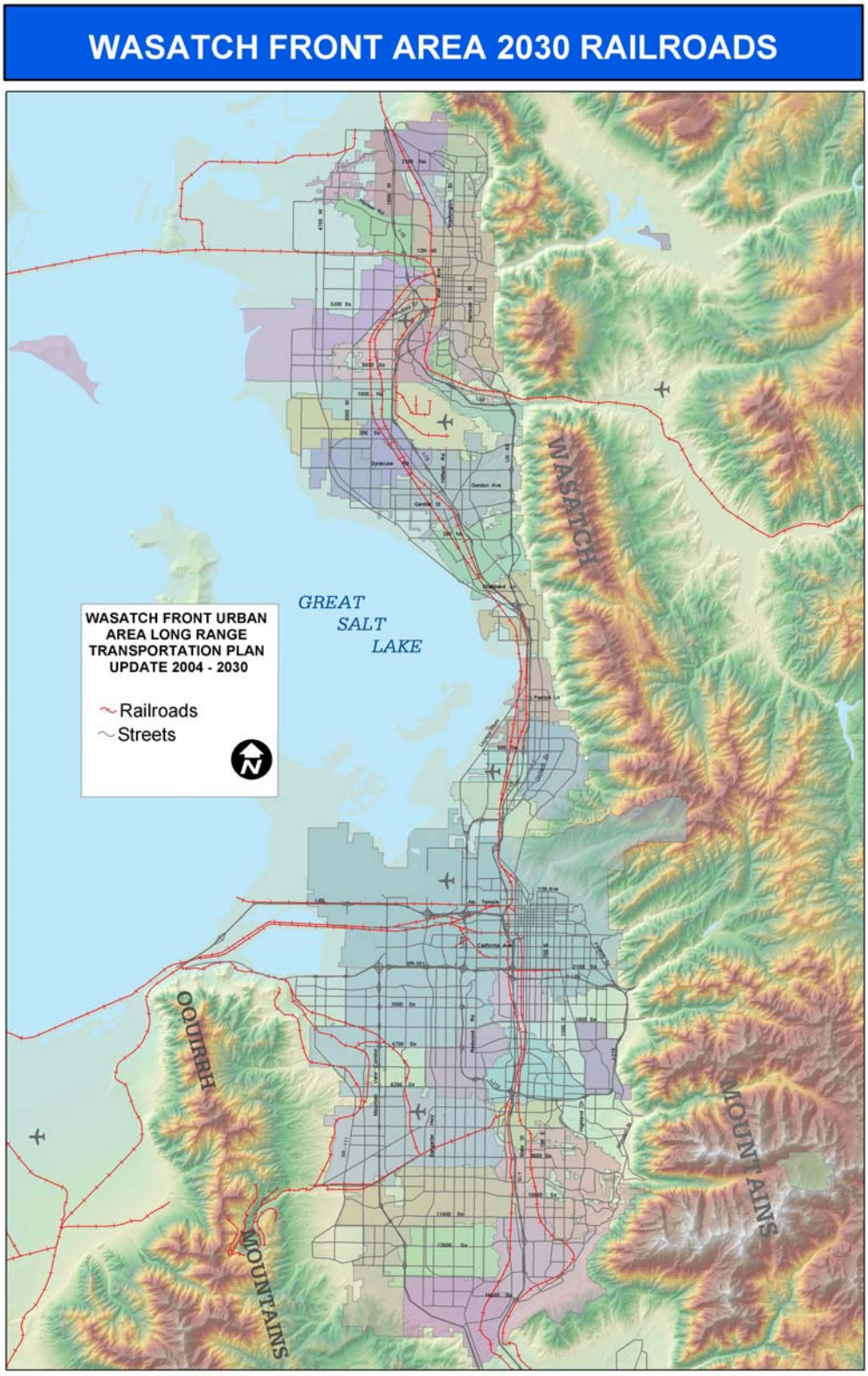
There are a number of railroad tracks bisecting the Wasatch Front Urban Area, most of which are used on a regular basis providing rail service to a variety of commercial and industrial businesses. Many of the tracks are at grade and conflict with the movement of vehicular traffic using area roads. Not only is the level of service affected when there are long waits during rush hour, but automobile and pedestrian safety is also an issue. Some of the most hazardous crossings have been signalized and gated, but there are others that have only railroad crossbuck warning signs. Accidents occur at these and some of the signalized crossings when motorists become impatient and take chances on crossing even when a warning signal is on, and others are just unaware of the hazard. The distribution of railroad tracks in the Wasatch Front Urban Area is shown in Map III-9.

Figure III-1

WASATCH FRONT URBAN AREA
2001 ACCIDENTS RATES PER MILLION VMT



Map III-9


WASATCH FRONT AREA 2030 RAILROADS
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Railroads
Streets
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Air Quality

Exhaust emissions and road dust from automobiles, trucks, and buses contribute to three air pollutants. These pollutants are carbon monoxide (CO), fine particulate matter (PM10), and ozone (O3). Salt Lake County, Davis County, Salt Lake City, and Ogden City are designated as non-attainment or maintenance areas for one or more air pollutants. A non-attainment area is an area that does not meet federal standards for clean air for certain types of airborne pollutants. A maintenance area is an area previously designated as non-attainment that subsequently has met and is maintaining federal standards for clean air. There are four areas along the Wasatch Front which must conform to state air quality goals as defined in the State Implementation Plan (SIP). Both maintenance and non-attainment areas for the Wasatch Front Urban Area are listed in Table III-2.

Table III-2

WASATCH FRONT URBAN AREA
NON-ATTAINMENT DESIGNATIONS

Area	Air Quality Designation
Salt Lake City	Maintenance Area Carbon Monoxide (CO)
Ogden City	Maintenance Area Carbon Monoxide (CO)
	Moderate Non-Attainment Area Particulate Matter (PM10)
Salt Lake & Davis Counties	Maintenance Area Ozone (O3)
Salt Lake County	Moderate Non-Attainment Area Particulate Matter (PM10)

Carbon monoxide is generally the result of direct emissions of CO gas, which disperses relatively rapidly beyond the immediate location of the source. Although major industry and even home heating may emit some CO into the atmosphere, automobiles contribute approximately 80 percent of the CO emissions throughout the Wasatch Region. Most CO concentrations occur at congested intersections during the cold winter months when temperature inversions and the associated stagnant air mass lead to a build up of emissions.

In addition to carbon monoxide, high concentrations of PM10 are also a concern along the Wasatch Front Region during the stagnant wintertime weather patterns. Although the issues and causes of small particulate pollution are not thoroughly understood, valley-wide fog and brown haze characterize this pollution problem. Present analysis suggests that the particulate problem is complex and caused by microscopic fugitive dust (such as that from road surfaces, wood and solid fuel burning emissions, diesel emissions, etc.), as well as by secondary formation of nitrate and sulfate particles originating from combustion based emissions of nitrogen oxides (NOx) and sulfur oxides (SOx). Vehicle emissions account for about 30 percent of the PM10 problem. Salt Lake County and Ogden City are officially designated by the EPA as PM10 non-attainment areas.

The last problem pollutant for which the transportation system has a regional impact is ozone. Ozone is formed as a result of a complex chemical reaction between a variety of gases. Vehicle emissions of NOx and volatile organic compounds (VOC) contribute significantly to the ozone problem. Vehicle emissions account for about 40 percent of area wide VOC emissions and 50 percent of NOx emissions. The formation of ozone from these gases is generally regional in nature, often at distances beyond primary emitting sources, and is catalyzed by warm temperatures, sunlight, and slow wind patterns. The summer time wind patterns of daily (mountain/valley/lake) flows within warm high-pressure centers are particularly conducive to ozone formation in the Wasatch Front.

Monitoring of air quality in these areas for the last 10-15 years has shown a steady improvement in air quality. No violations of the standards for CO, PM10, or ozone has occurred for several years. A violation is defined as multiple, usually three, exceedances of the standard at the same monitoring station within a limited time frame, usually three years. There has not been a violation of the CO standard in Salt Lake City since 1987, nor in Ogden since 1990. Based on these several years of documented clean air, the EPA has re-designated Salt Lake City and Ogden as maintenance areas for CO and approved the CO maintenance plans for each area.

The last ozone violation, excepting an episode of regional wild fires, was in 1989. The EPA has re-designated the Salt Lake-Davis County Area as an ozone maintenance area and approved the ozone maintenance plan for this area. The PM10 standard has been met since 1993 in Ogden and since 1992 in Salt Lake County, with the exception of a 2001 wind storm over the Kennecott tailings pond. The Utah Division of Air Quality is working with Kennecott to implement measures to avoid similar occurrences in the future. Emission testing and maintenance of automobiles as well as stricter emission standards for automobiles has played a significant role in achieving and maintaining healthy air. Efforts to control automobile emissions will need to continue in the future in order to accommodate the anticipated growth in this area without compromising clean air. These efforts will include new vehicle emission testing programs, new emission standards for passenger cars, sport utility vehicles, and large diesel trucks and buses, and a balanced transportation system that provides the options of mass transit, pedestrian, and telecommuting.

WASATCH FRONT URBAN ENVIRONMENT

The Wasatch Front Region's physical environment will affect the type and location of future development, and the transportation system built to serve the development. The Wasatch Front Urban Area is situated in an unique environment which presents both opportunities and potential problems for the region. The area's proximity to the Great Salt Lake and to the Wasatch Mountains offers excellent opportunities for recreation and other use. These characteristics have helped to make the region attractive and highly valued by many individuals.

Landforms

The Wasatch Front Urban Area is located on extensive alluvial deposits at the base and just west of the Wasatch Range, an imposing series of fault-block mountains, considered a part of the Rocky Mountains. These mountains rise more than 7000 feet above the valleys. There are a series of broad, relatively flat, valleys which stretch from the Point of the Mountain on the Salt Lake County/Utah County line to Ben Lomond Peak on the Weber County/Box Elder County Line. These valleys were formerly a part of a

lake bottom of prehistoric Lake Bonneville, which was formed during the Ice Age. At the base of the Wasatch Range, which has numerous mountain peaks of 10,000 and 11,000 feet in elevation, there are a series of alluvial fans that emanate from the mouths of the many canyons. These fan areas, locally referred to as benches or foothills, rise above the valley floor between 500 to 1000 feet, and were primarily formed from streams that ran high during and shortly after the most recent Ice Age. The Great Salt Lake and numerous smaller fault-block mountains dominate the landscape, and serve to frame in the valleys on the west. The fault-block mountains to the west are a part of an extensive physiographic region called the Basin and Range Province, which covers vast areas of the Intermountain West and northern Mexico.

Climate

The climate of the Wasatch Front Urban Area ranges between semi-arid and arid. The Salt Lake International Airport, which is located on the northwestern side of the Salt Lake Valley, has a weather station which records daily temperature and precipitation data. These records indicate that the average cold month temperature is about 26 degrees F, and the average warm month temperature is about 76 degrees F. However, the hottest temperatures recorded during the day can reach 100 degrees F in July and August, and the coldest temperatures can drop to 0 to 10 degrees F in January during the night. The average annual precipitation at the airport only averages about 15 inches. In contrast, the benches and the mountains receive considerably more precipitation, and also record lower temperatures. Weber State University, for example receives, about 22 inches of precipitation, which categorizes this area as a middle latitude severe (humid continental) climatic type. This increase in precipitation results from orographic (Wasatch Mountains) and lake effects (Great Salt Lake). The mountains receive substantially more precipitation in the form of rain in the summer and a considerable amount of snow in the winter. The annual precipitation at several Wasatch Mountain locations, for example, which have elevations of about 10,000 or 11,000 feet, can amount to 60 inches or more. A substantial proportion falls as snow, making it possible for the water to be naturally stored for several months until warmer temperatures bring the snowmelt down to the valley.

Open Space

The Wasatch Front Urban Area is surrounded by a relatively vast amount of open space. There are mountains east and west of the valleys that provide recreational opportunities for the inhabitants of the Wasatch Front, and out-of-town visitors. Most of the open space to the east of the Wasatch Front Urban Area is part of the Wasatch National Forest, which is administered by the Forest Service. The open space to the west, found mostly in the Oquirrh Mountains, is primarily administered by the Bureau of Land Management. Some of the most notable peaks in the National Forest in the Wasatch Range just east of the Ogden/Layton area are Ben Lomond Peak, Mount Ogden, Thurston Peak, and Francis Peak. In the Salt Lake area they are Lone Peak, Broadfork Twin Peak, and Mt. Olympus. There are numerous nationally recognized winter and summer recreation areas for skiers, hikers and rock climbers. As a consequence, hundreds of thousands of people visit the public lands in the foothills and mountains of the Wasatch, annually. Less notable and frequented are the mountains to the west of the urbanized areas, such as the Oquirrh Mountains dividing Salt Lake and Tooele Counties. There are several natural streams emanating from these mountains as well as canyons that are mostly frequented by people living nearby. The majority of the Oquirrh Mountains is owned by Kennecott Copper Corporation, and generally not available to the public for open space use.

Other open space features in the area are the Jordan River Parkway, which runs along almost the entire length of the Jordan River in Salt Lake County, the Great Salt Lake and associated shorelands, Antelope Island in the Great Salt Lake in Davis County, and the Farmington Bay Bird Refuge, which is a fresh water bay created by a dike of the Great Salt Lake. Over the past several years, population growth in the urbanized areas has impacted the open space resources of the Wasatch Range in a variety of ways. Two of these ways are mentioned here. First, there are many more people visiting the popular places in the adjacent mountains. This has jeopardized the environmental quality of the mountains by degrading surface and ground water quality. The Wasatch Range is a major source of water for the adjacent urbanized areas, and water quality degradation can have far-reaching effects. Secondly, many access points or trail heads to the canyon and other mountain destinations located on public lands that were commonly used in the past have been closed off to the public by private developments. The effect of this is that much of the public open space becomes inaccessible and the opportunity to visit these popular places becomes lost. Remaining access to non-private lands is channeled through an ever-decreasing number of public access points.

Not only can open space resources be found in the mountains of the Wasatch, but private and public open space is also found in the valleys in the form of farms, developed and natural parks, golf courses, water features, vacant land, and the like. In many instances, these resources may receive more intensive use than those found in the adjacent mountains. Recently, because of the rapid growth in the area, people in general, and state and local political leaders, have become concerned about the relatively rapid loss of private open space resources, such as farmland and vacant land. Urban growth has put considerable pressure on the farmlands that can still be found in, or adjacent to, the urbanized areas. Some individuals and law-makers value farmlands and would like to see some of them preserved for future generations. How these lands can be preserved, and where, and to what degree is something that is being, and will likely be, debated by all those affected. Some agricultural lands are receiving state designation as farmland preserves, through the use of conservation easements and favorable tax treatments, to assist farmers in preserving their lands for future agricultural use. However, as development pressure and property values increase, it may become increasingly difficult to keep many agricultural lands in agriculture, as they will be in high demand for urban type uses. In any event, policy decisions relative to open space will affect land use and development patterns, and, as a consequence, will also affect long range plans for the region's transportation systems.

Surface Water

The Great Salt Lake is the dominant water feature in the Wasatch Front Region. The Lake is about 2,300 square miles in size, and is relatively shallow with maximum depths of not much greater than 20 feet. The lake does not have an outlet, and therefore, the water is saline. The salinity ranges from about 19 to 27 percent. Several major streams, such as the Jordan River, Weber River, Ogden River, and Bear River, and numerous smaller streams that emanate from the Wasatch Range on the East, and a certain amount of ground water, provide the lake with its water. The amount of water flowing in the streams, and ultimately into the lake, depends to a large degree on the amount of precipitation in the form of rainfall and snow that falls during a given time.

The variations in precipitation affects the stream flows and groundwater levels, and thus causes the lake to fluctuate dramatically in water level and area of coverage. The federal government, the State of Utah, and local governmental jurisdictions recognize an elevation of 4217 feet as a hazard area relative to Great Salt Lake flooding. Development is restricted from elevations below this line, unless precautions

are taken to make the proposed development flood proof. The rise of the lake to historic levels in the 1980s impacted agriculture, industry, public works, recreation, and transportation. In addition, many of the wetlands surrounding the lake were inundated with salt water, making them unusable as habitat for many wildlife species.

There are other surface water features besides the Great Salt Lake. There are the four rivers that flow into the lake, which were mentioned above. There are also numerous smaller streams that flow out of the Wasatch Range into the adjacent valleys to the west. Each canyon has a stream, some fairly large and others quite small. Many of these streams flow throughout the year with a peak flow in late spring and early summer. There are many other streams that are ephemeral and only flow when there is enough precipitation. Usually these streams will flow during snowmelt or during rainstorms, but are dry during the rest of the year. There are also some small playas, or dry lake beds in the low-lying areas of the valleys. See Map VII-3 for the location of surface water features in the Wasatch Urban Area.

Ground Water

Much of the water flowing in streams and interfluve areas seeps into the ground. The foothills and the base of the mountains are the locations where much of this water seeps into the ground. These locations are referred to as aquifer recharge areas. The water is stored in aquifers of various types. A considerable amount of the Wasatch Front Region's water resources comes from these aquifers, which can be tapped through wells or natural artesian springs. Past and present human activities have affected these ground water resources in certain locations. If precautions are not taken, harmful materials found in landfills and mine tailings can be leached by rain and snow and find their way into the ground water resources. One example of this situation includes the leaching of heavy metals from the Kennecott Mine tailings, which has contaminated the ground water supply of southwestern Salt Lake County. Another example is the plume of contaminated groundwater that is slowly moving westward near the City of Sunset, caused by the inappropriate disposal of solvents and other chemicals at Hill Air Force Base.

Floodplains

There are a number of identified floodplains in the urbanized areas, which are associated with streams and the Great Salt Lake. The three urbanized counties of Weber, Davis, and Salt Lake, are bisected by numerous rivers and streams, which emanate from the mountains and flow westward into the Great Salt Lake. In Weber County, the Ogden/Weber River system is the most significant. In Davis County, several smaller creeks, such as Kays, Farmington, Davis, Deuel, North Canyon, and other Creeks flow from the mountains into the lake. In Salt Lake County, streams from the major mountain canyons flow into the Jordan River, which flows through the middle of Salt Lake Valley. Among these are Little and Big Cottonwood Creeks, Mill Creek, Parley's Creek, Emigration Creek and City Creek. There are other streams too numerous to mention here, but some flow through open channels while sections of others are piped underground.

Wetlands

The greatest and most significant complex of wetlands in the intermountain area can be found adjacent to and surrounding the Great Salt Lake. These wetlands provide important habitat to resident wildlife and internationally significant habitat for part of a year to possibly as many as one million migratory shorebirds and waterfowl that make annual migrations across North America. A majority of these

wetlands are found on the east side of the lake, where most of the fresh water is received by the lake. There are numerous rivers and streams which flow to the lake which supply this area with the fresh water needed to support wetlands plant and animal life. Wetlands can also be found adjacent to the streams, particularly in areas where the streams flow through relatively flat topography or low lying areas. Wetlands are those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands are those wetlands which are within the extent of the Corps of Engineers (COE) regulatory overview. For an area to be identified as a jurisdictional wetland, the area must exhibit positive indicators of wetland hydrology, hydrophytic vegetation and hydric soils.

Wetlands can be categorized according to their quality and type. If wetlands provide a particularly rich habitat for a variety of wildlife species, it is usually considered to be of high quality, or have a high functional value. Also, wetlands can be classified according to their type. This would include types such as marsh, wet meadow, riparian scrub, playa/mudflat, and open water. Refer to Map VII-4 for the distribution of wetlands in the Wasatch Front Urban Area.

Farmlands

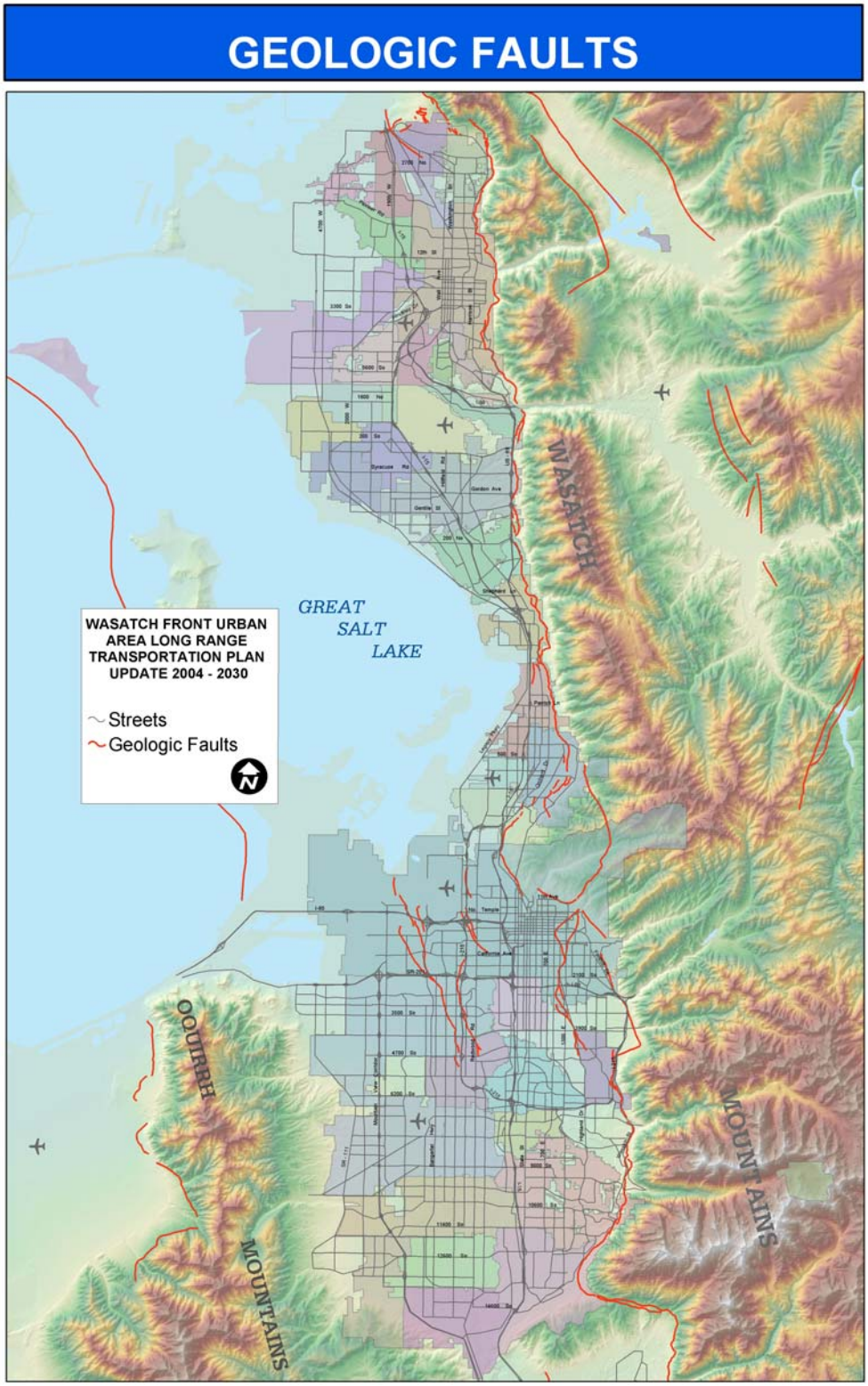
Over the years, much of the farmland in the urbanized area has been developed. The remaining farmlands where crops are being produced are located in the western portion of Weber County, and to a lesser degree in western portions of Davis County, between I-15 and the lake, and the Salt Lake Valley. There is a limited amount of Prime/Unique Farmland and Farmland of Statewide Importance in western Weber County, northern Davis County, and western Salt Lake Valley. Generally, prime farmlands are defined as lands with adequate irrigation water supply, warm soil temperature and other good soil characteristics. Prime farmland, because of its rich soil, will have few if any limitations, and will produce more without sustaining loss of production potential. Farmlands of Statewide Importance are not as good as prime farmlands, but are nevertheless important to the agricultural base of the area. These farmlands have more limitations than Prime Farmlands, such as steeper slope, high water table, and alkali problems.

However, these lands can be made just as productive as the Prime Farmlands with proper management of the land. If farmlands of the type described above are located within incorporated city limits, it is presumed they will be eventually developed into urban type land uses. Currently, a majority of the acreage of these farmlands is being used to grow winter (dry farm) wheat and alfalfa. Prime farmlands along the Wasatch Front are graphically presented as Map VII-5.

Slopes and Faults

The steep slopes of the Wasatch Mountain Range were created by the Wasatch Fault, which runs the entire length of the urbanized areas. The Wasatch Fault and other faults in the area highlight the potential for earthquakes in the area and the need to consider their possible impact on transportation facilities. As development continues to creep higher on the foothills of the Wasatch Mountains, slope stability, erosion and drainage problems will present engineering challenges in designing transportation facilities. Map III-10 shows the location of major geologic fault lines in the Wasatch Front Urban Area.

Map III-10


GEOLOGIC FAULTS
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Streets
Geologic Faults
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Hazardous Waste Sites

Currently there are numerous hazardous waste sites, or contaminant sources, located within the urbanized areas. Many of these sources are in relatively close proximity to the transportation projects listed in this plan. Construction through potential contaminant sources may add health and safety concerns and affect construction budget expenditures. The impact of these sites on transportation facilities will need to be addressed during the design and construction phase of each highway or transit project.

There are potentially five types of contaminant sources: Underground Storage Tanks; Title 3 Sites; Toxic Release Inventory 1990 Sites; Resource Conservation and Recovery Act (RCRA) Sites; and Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Sites. The Comprehensive Environmental Response, Compensation and Liability Inventory System (CERCLIS) database documents hazardous waste sites where a release or potential threatened release has been investigated. These sites are further defined as a location that has been reported to the Environmental Protection Agency, and where it is probable that some environmentally hazardous materials are present. Also, the State of Utah Division of Solid and Hazardous Waste maintains data bases for underground storage Tank Facilities, Leaking Underground Storage Tank sites, and RCRA facilities. Map VII-6 graphically displays known hazardous waste sites for the Wasatch Front Urban Area.

Sensitive Species

Sensitive species are plants and animals which are considered threatened or endangered relative to extinction. There are currently 21 species in the Wasatch Front Urban Area which fall into the sensitive species category. The most notable of these are the peregrine falcon, bald eagle and Ute ladies tresses, all of which are on the federal list of endangered and threatened species. Both peregrine falcon and bald eagle sightings have been reported over the past few years on a fairly regular basis. Some examples of other less notable sensitive species which are known to inhabit certain areas of the Wasatch Front region include the spotted frog, least chub, western burrowing owl, ferruginous hawk, white faced ibis, Bonneville cutthroat trout, pocket gopher and others. The likelihood of these and other sensitive species being present in the Area will depend on whether or not suitable habitats exist.

IV. LONG RANGE CAPACITY NEEDS

The Wasatch Front Urban Area has experienced rapid growth over the last several decades that has greatly increased the need for additional high quality and efficient transportation facilities. Because these needs have not been sufficiently met as this growth has continued, significant congestion has resulted throughout the region. Growth in population and employment and the resulting increase in the number of trips will require capacity improvements to all elements of transportation, including highways, transit, bicycle and pedestrian paths, railroads, and airport facilities, and the linkages among them, to properly serve future growth and travel demand.

The Wasatch Front Region's need for a long range package of transportation capacity improvements can be demonstrated by assigning predicted future travel (demand) to the existing regional transit and highway systems (supply). The results of testing 2030 travel demand on the existing 2001 highway and transit networks are shown in the middle column of Table IV-1. If no new highway and transit capacity are constructed, the year 2030 performance would become unacceptable. The total p.m. peak period delay on the highway system, a measure of congestion, would increase from 42,000 hours in 2001 to more than 400,000 hours in 2030. Transit ridership would increase only marginally because the incomplete transit system would not provide an attractive alternative to the automobile. Driven primarily by the independent growth in regional population and employment, and in spite of worsening congestion, vehicle miles of travel would continue to increase.

The results of assigning 2030 travel demand on the highway and transit network found in the 2008 Transportation Improvement Program are shown in the last column of Table IV-1. Transit travel would almost double due to projects included in the TIP.

Table IV-1

WASATCH FRONT URBAN AREA
TRAVEL DEMAND SUMMARY

EVALUATION CATEGORY	2001	2030 Demand on 2001 Network	2030 Demand on 2008 TIP
Average Weekday Vehicle Miles Traveled	34,500,000	57,000,000	58,000,000
Average Weekday Total PM Peak Period Delay (Vehicle Hours)	42,311	408,410	291,352
Average Weekday PM Peak Period Highway Speeds (miles per hour)	32.95	17.79	21.27
Average Weekday Transit Ridership (Linked Trips)	67,754	85,325	121,059
Average Weekday Transit Percentage of Home Based Work Trips	3.53	2.53	3.77
Peak Bus Transit Service Miles*	23,987	23,981	32,940
Daily Total Bus Service Miles*	49,154	49,145	69,729
Peak Rail Transit Service Miles*	729	729	2,767
Daily Total Rail Service Mile*	1,896	1,896	7,194
Freeway Lane Miles	977	977	1,086
Arterial Lane Miles	3,401	3,401	3,513
Population	1,367,800	2,139,300	2,139,300

* Includes Utah County

Still, congestion on highways again would be unacceptable: p.m. peak period delay would increase by seven times from 42 thousand hours to almost 300 thousand hours. The performance measures in Table IV-1 clearly demonstrate the need for transportation improvements. The regional need for the complete 2030 LRP Update is also explained by analyzing the regional goals listed in Table IV-2 below.

Table IV-2

WASATCH FRONT URBAN AREA
2030 LRP UPDATE GOALS AND ANALYSIS

GOAL	ANALYSIS
1. Provide a balance, interconnected transportation system with a range of convenient, efficient, and economical choices	The existing system is unbalanced between modes. The transit and highway systems and connections are incomplete. The 2030 LRP Update is needed to add connections and provide choices.
2. Increase transportation mobility and accessibility for both persons and freight, thus promoting economic vitality in the region.	Without increases in transportation supply, travel time and accessibility degrade significantly under the weight of increasing demand.
3. Increase transportation safety and security for all modes of travel	Increasing congestion can reduce the severity of auto accidents, but the number of accidents will likely increase and emergency response times will also increase. Security can likewise be degraded by congestion and lack of access.
4. Provide a transportation system that both protects and enhances the environment, promotes energy conservation, and improves the quality of life	Emissions generally decrease with higher speeds and less energy is consumed per mile when congestion is relieved. Sensitive environmental areas will be impacted as the 2030 LRP Update is implemented, but these impacts can be mitigated. Enhance-ments to the transportation system will relieve congestion and provide alternatives for travel and improve the region's quality of life.
5. Protect existing and future transportation systems through ongoing maintenance, preservation, or reconstruction.	Maintenance, preservation, and reconstruction of highway and transit facilities would continue.

The growth in trips anticipated throughout the Wasatch Front Urban Region will concentrate in north Davis County and southern and western portions of Salt Lake County. The charts shown in Figures IV-1 through IV-8, and indexed in Map IV-1, support this conclusion.

Map IV-1

WASATCH FRONT URBAN AREA
DISTRICTS

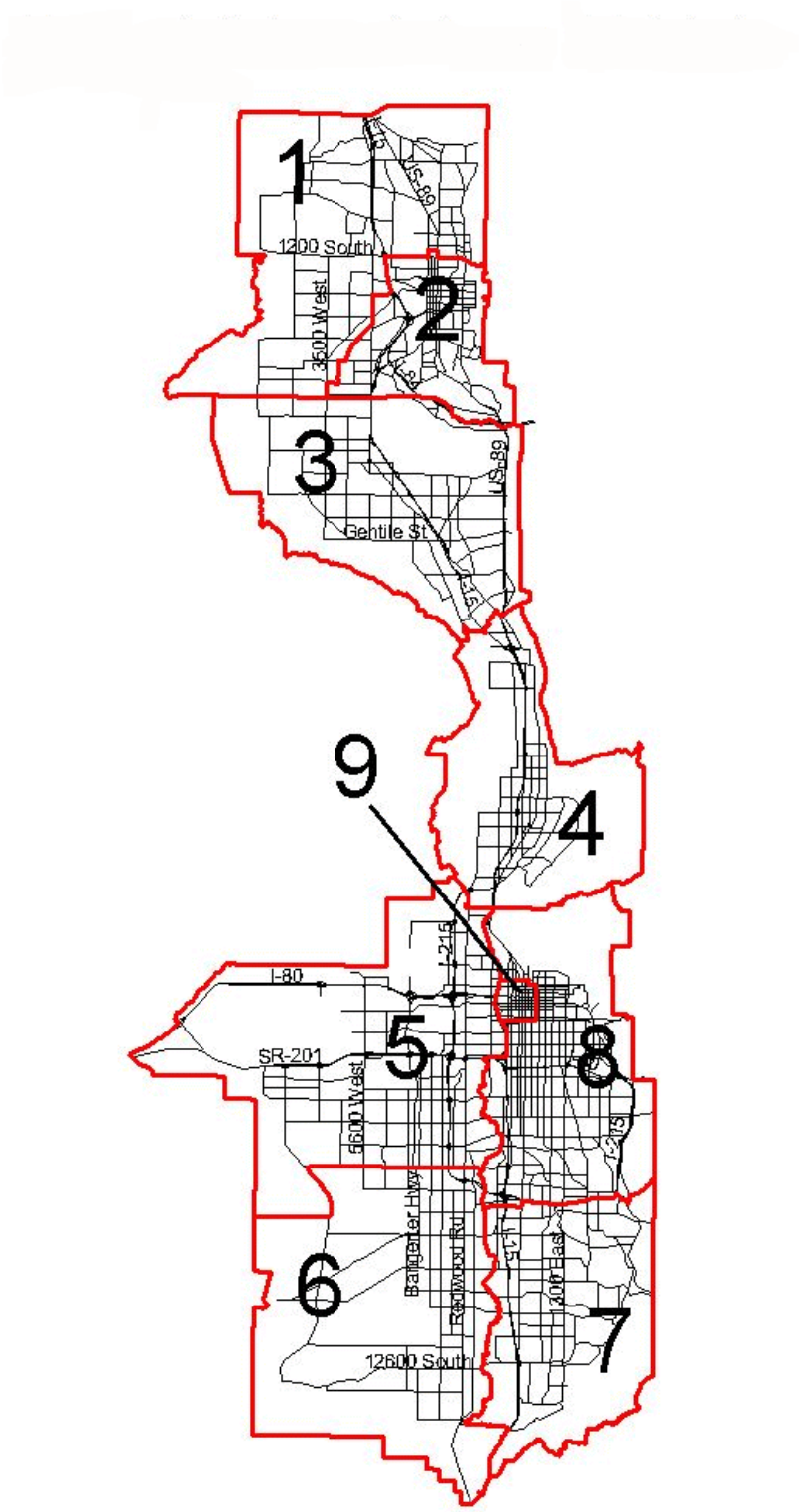
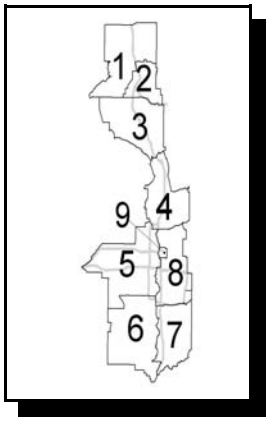
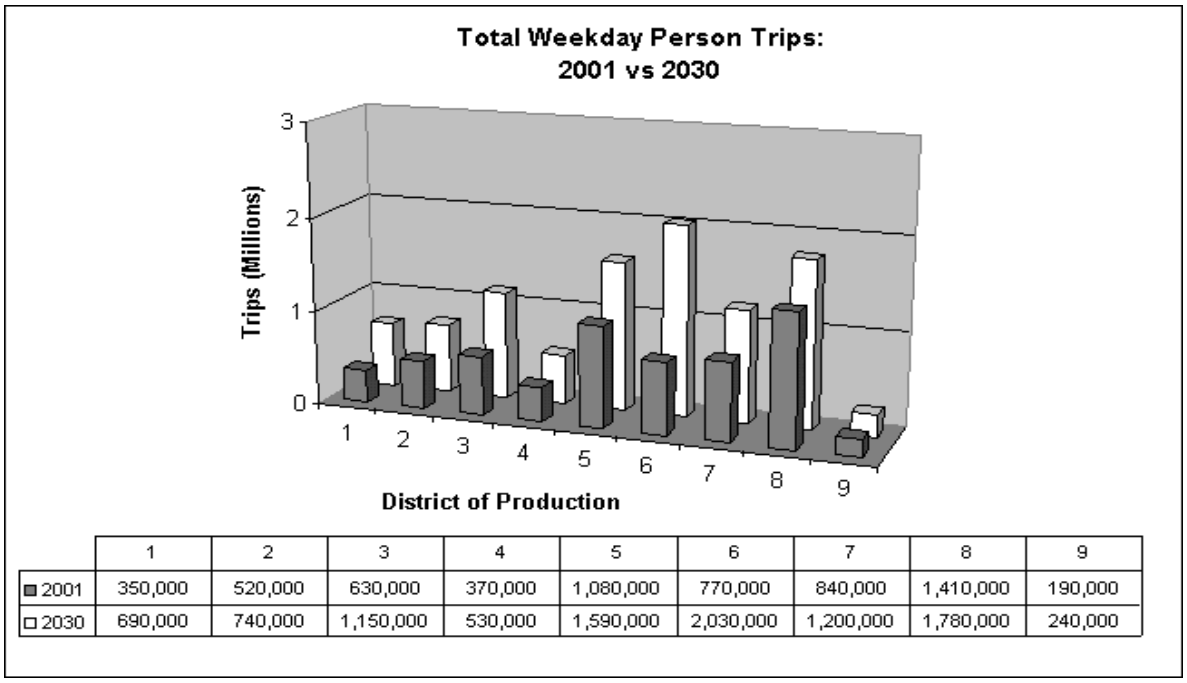


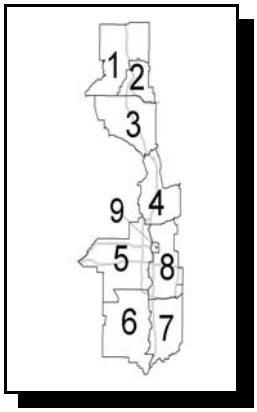
Figure IV-1

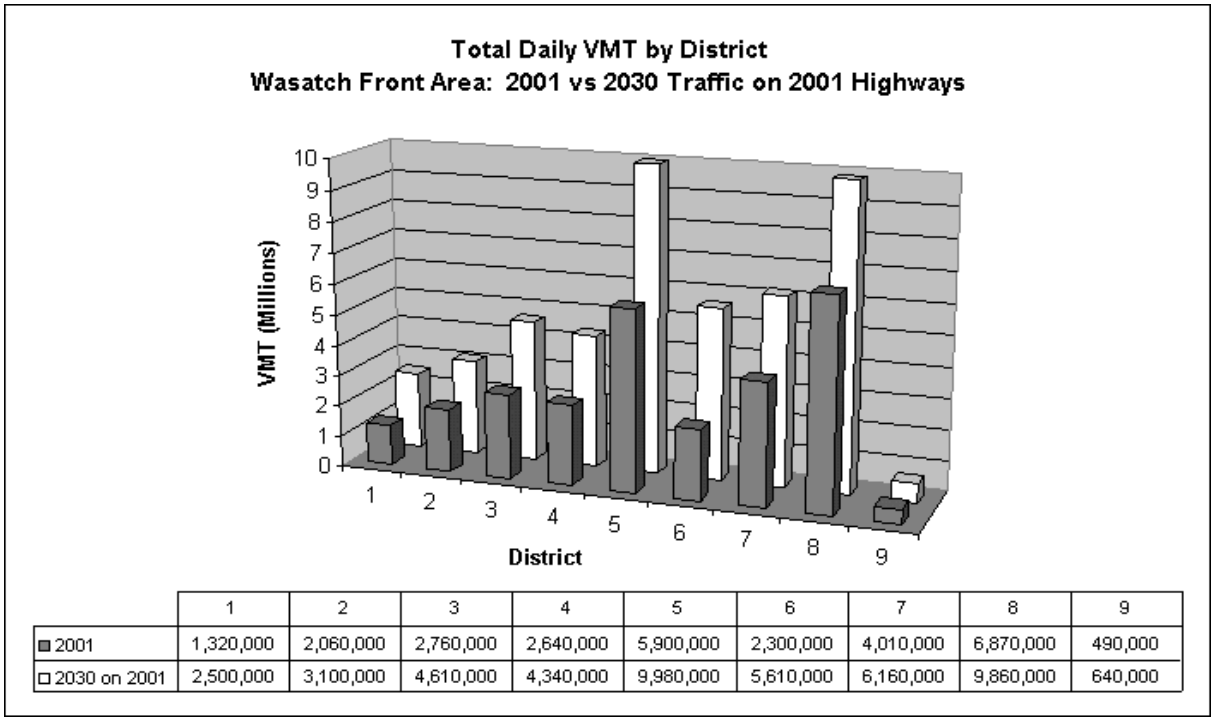




	1	2	3	4	5	6	7	8	9
2001	350,000	520,000	630,000	370,000	1,080,000	770,000	840,000	1,410,000	190,000
2030	690,000	740,000	1,150,000	530,000	1,590,000	2,030,000	1,200,000	1,780,000	240,000

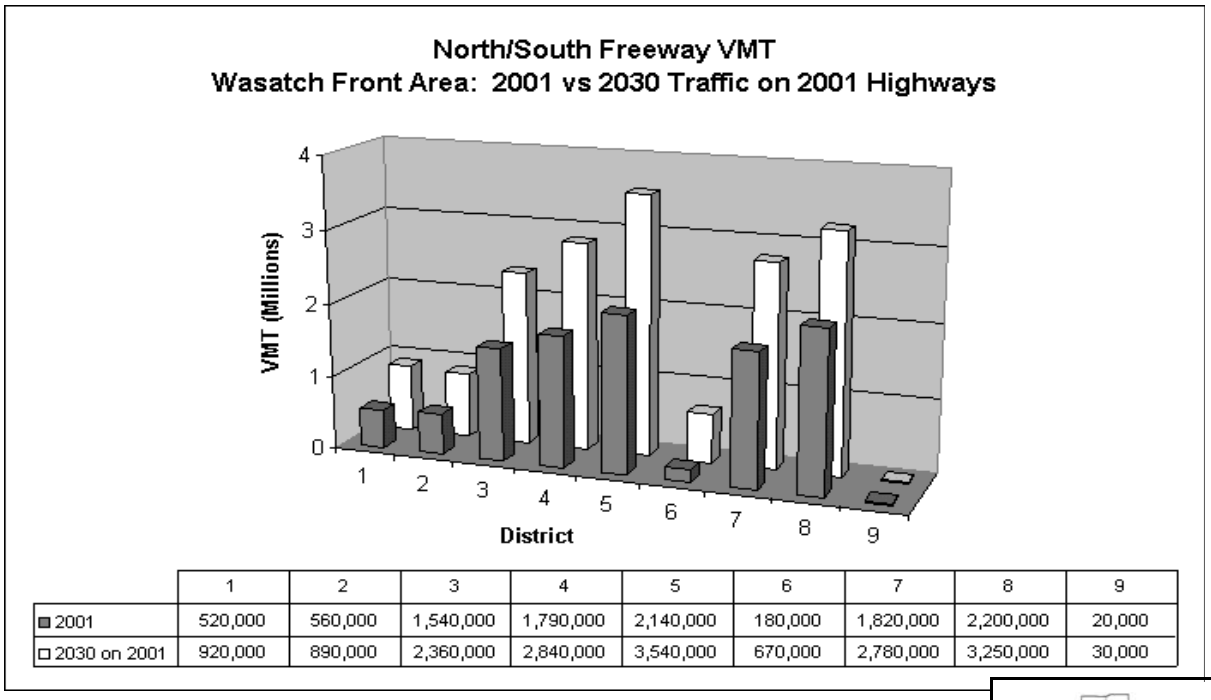
Figure IV-2





	1	2	3	4	5	6	7	8	9
2001	1,320,000	2,060,000	2,760,000	2,640,000	5,900,000	2,300,000	4,010,000	6,870,000	490,000
2030 on 2001	2,500,000	3,100,000	4,610,000	4,340,000	9,980,000	5,610,000	6,160,000	9,860,000	640,000

Figure IV-3



	1	2	3	4	5	6	7	8	9
2001	520,000	560,000	1,540,000	1,790,000	2,140,000	180,000	1,820,000	2,200,000	20,000
2030 on 2001	920,000	890,000	2,360,000	2,840,000	3,540,000	670,000	2,780,000	3,250,000	30,000

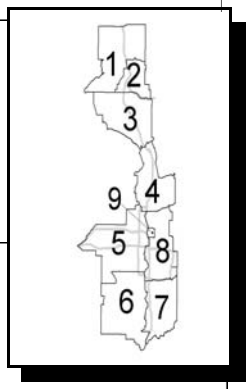
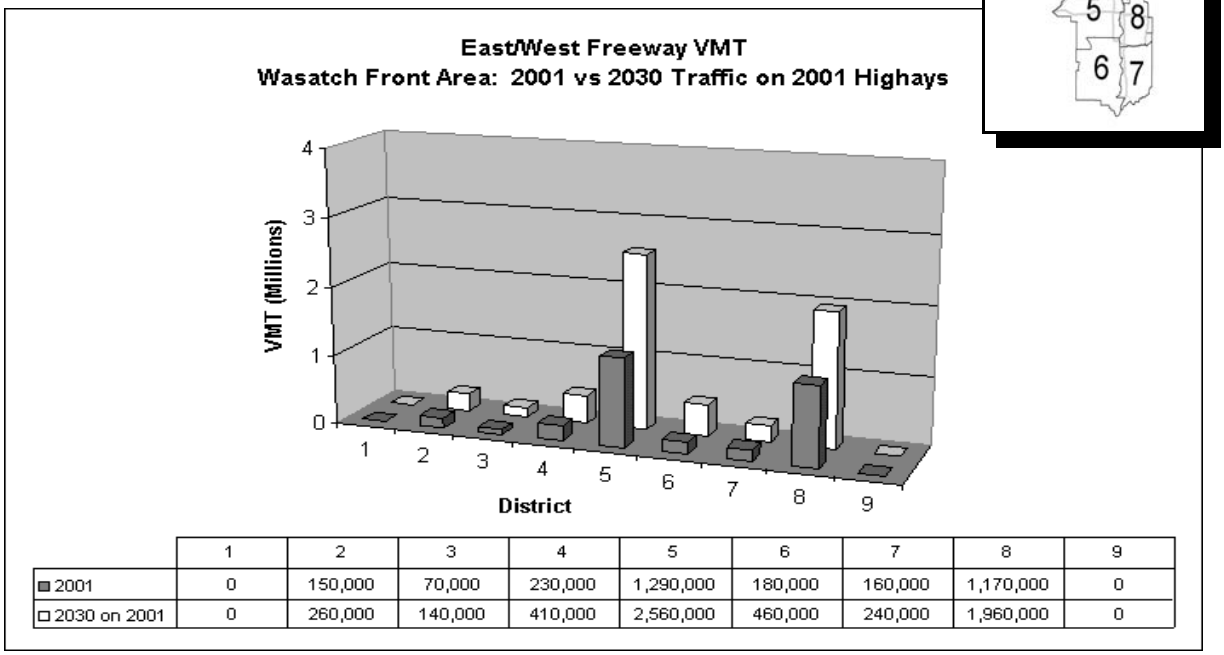
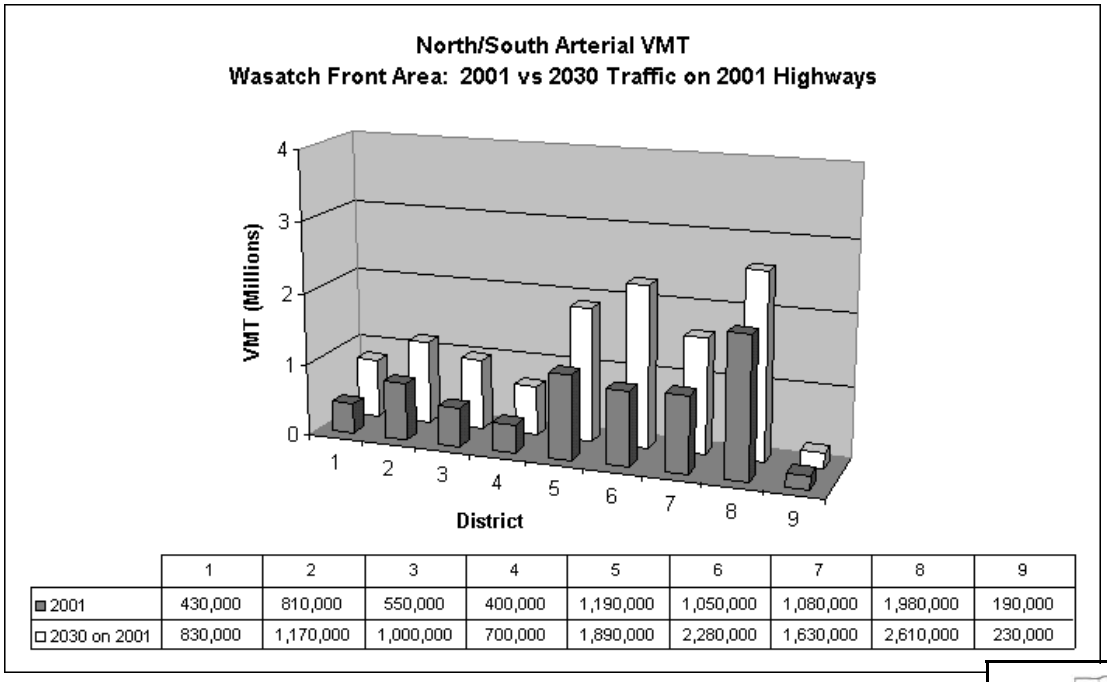


Figure IV-4



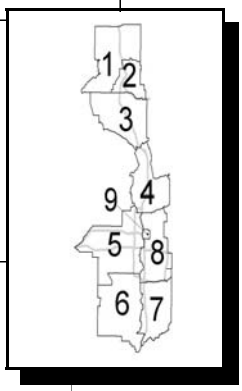
	1	2	3	4	5	6	7	8	9
2001	0	150,000	70,000	230,000	1,290,000	180,000	160,000	1,170,000	0
2030 on 2001	0	260,000	140,000	410,000	2,560,000	460,000	240,000	1,960,000	0

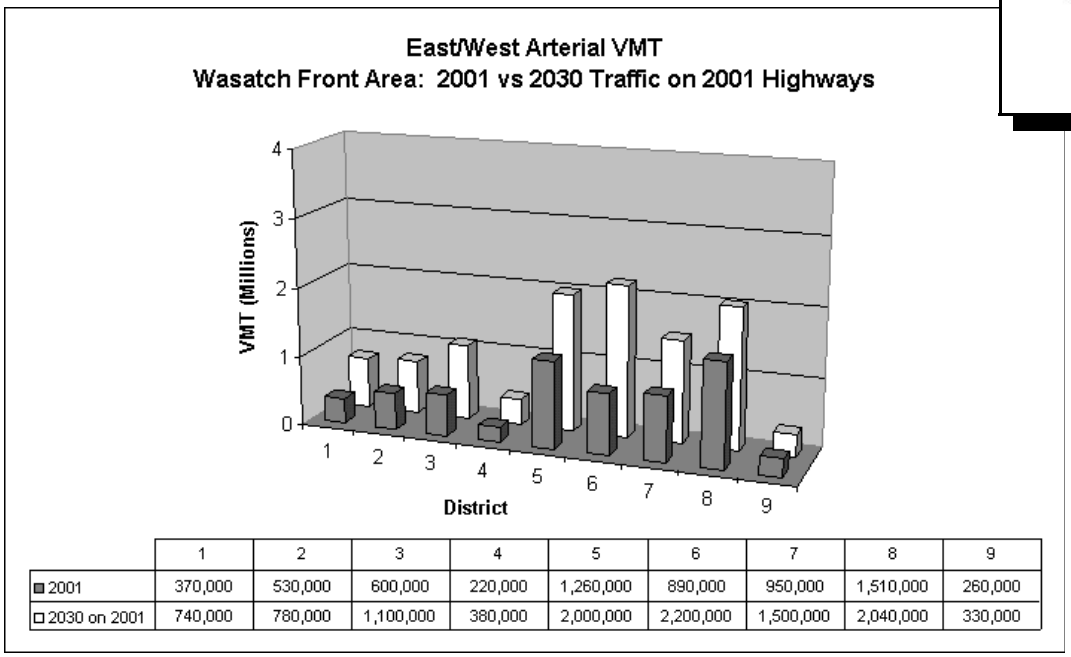
Figure IV-5



	1	2	3	4	5	6	7	8	9
2001	430,000	810,000	550,000	400,000	1,190,000	1,050,000	1,080,000	1,980,000	190,000
2030 on 2001	830,000	1,170,000	1,000,000	700,000	1,890,000	2,280,000	1,630,000	2,610,000	230,000

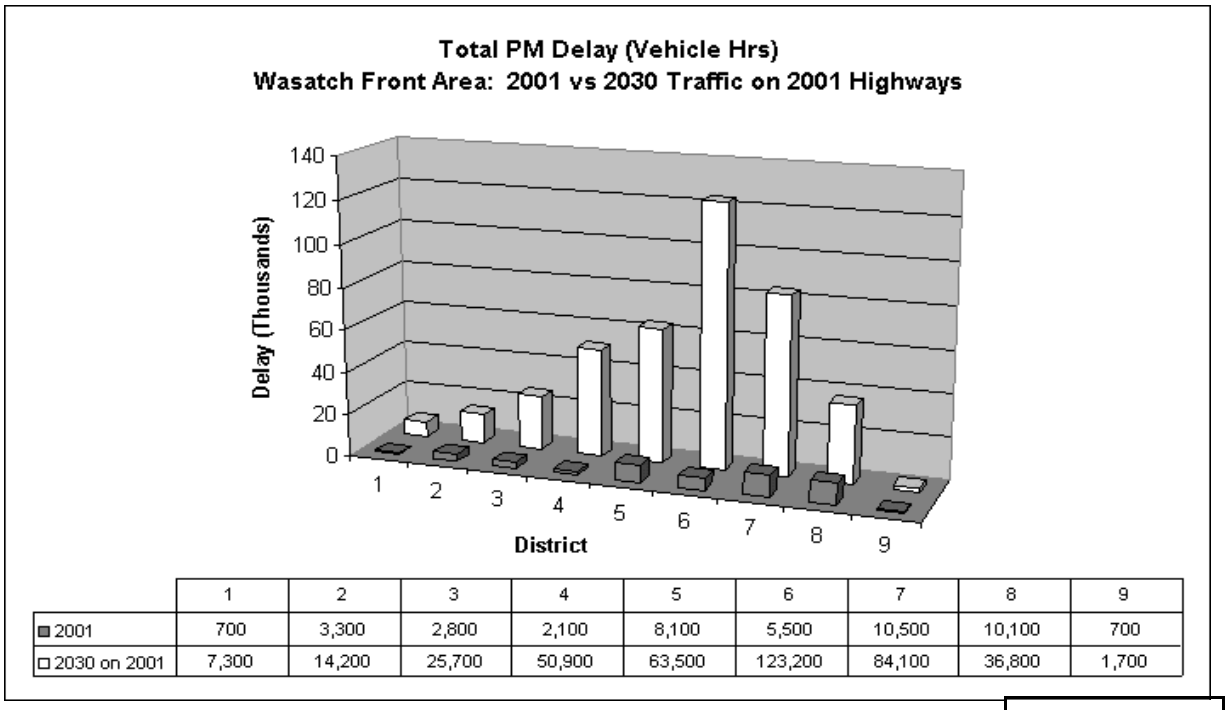
Figure IV-6





	1	2	3	4	5	6	7	8	9
2001	370,000	530,000	600,000	220,000	1,260,000	890,000	950,000	1,510,000	260,000
2030 on 2001	740,000	780,000	1,100,000	380,000	2,000,000	2,200,000	1,500,000	2,040,000	330,000

Figure IV-7



	1	2	3	4	5	6	7	8	9
2001	700	3,300	2,800	2,100	8,100	5,500	10,500	10,100	700
2030 on 2001	7,300	14,200	25,700	50,900	63,500	123,200	84,100	36,800	1,700

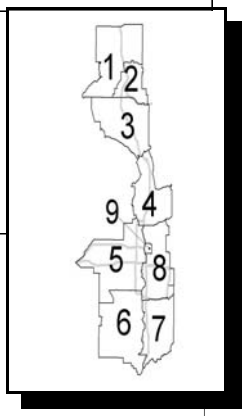
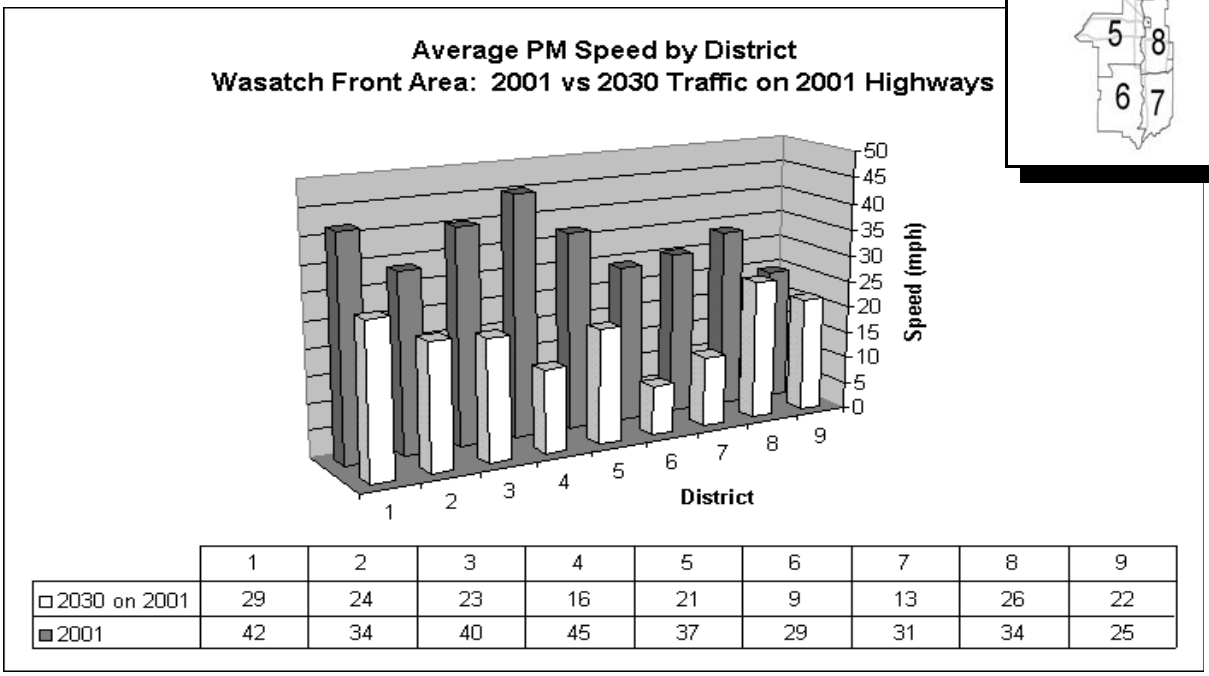


Figure IV-8



	1	2	3	4	5	6	7	8	9
2030 on 2001	29	24	23	16	21	9	13	26	22
2001	42	34	40	45	37	29	31	34	25

HIGHWAY IMPROVEMENT NEEDS

Since the private vehicle continues to be the most frequently used mode of travel in the region, the increase in person trips translates primarily into growth in number of vehicle miles of travel (VMT). Highway improvement needs are assessed by inputting projected 2030 socioeconomic data into the travel demand model, which generates the number of trips anticipated throughout the region. These resulting trips are assigned to the network of roads as identified in the 2001 highway network. Using the 2001 highway network with 2030 socioeconomic input data will illustrate the Wasatch Front's future travel needs based solely on population and employment growth, as if no highway improvements were scheduled.

Projected Travel Demand

Based on the method described above, vehicle miles of travel (VMT) in the Wasatch Front area are expected to grow from 34,500,000 in 2001 to 57,000,000 in 2030, an increase of 63 percent. Due to the linear geographic configuration of the region, the strongest growth in VMT will be on north-south freeways and east-west arterials in all three counties.

Salt Lake County can also expect a significant increase in travel demand on arterial streets in all directions in the southern and western portions of the County. Total east-west VMT throughout the western half of Salt Lake County will increase by about 3.5 million, an increase of 95 percent, while north-south VMT will increase by 3.8 million, an increase of 83 percent. Although there are large percentage increases for several categories in Davis and Weber Counties, the absolute growth is more significant for north-south travel. The large increases in east-west arterial VMT can likely be attributed to travel toward the north-south freeways. For VMT growth in the Wasatch Front Urban Region on the district level, broken down by direction and road type, see Figures IV-2 through IV-6.

Potential Congested Locations

The growth in VMT discussed above helps to identify where the highway system will need to be improved to better facilitate travel for the Wasatch Front's growing population. Analyzing delay and speed on roads will also indicate where highway capacity, if it remains as it was in 2001, will not support the increased volume of vehicles. The largest percentage of VMT growth is found in the southwest portion of Salt Lake County and it should be expected that delay and speed should be negatively affected in that area. The increases in PM travel delay by district between 2001 and 2030 and the corresponding decreases in average PM peak speeds by district are graphically displayed in Figures IV-7 and IV-8. The figures illustrate that the largest differences occur in southern Davis County and southwest Salt Lake County. A primary reason this would be sensible is because these districts contain the county lines into Davis, Salt Lake, and Utah County.

Mobility is hindered to an unacceptable degree when volumes approach or exceed capacity. Map IV-2 shows ranges of volume to capacity (V/C) ratios in 2001 after reconstruction of I-15 through much of Salt Lake County. These ratios reflect conditions during the pm peak period on a typical weekday. While the modeled values may not be exact on a specific section, they give a good indication of corridors where congestion exists. Unacceptable levels of congestion are identified by red and travel on some of the road

sections in green is also experiencing unacceptable congestion. Map IV-3 illustrates congestion levels if by 2030 only the highway and transit projects in the 2004-2008 Transportation Improvement Program were constructed. This map points out specific corridors where additional capacity is needed to meet the travel demand of the projected population and employment in 2030.

In Weber County high congestion levels would be found downtown, around Riverdale Road development, near Weber State University, and on accesses to I-15. Red on the freeways is driven in part by continued growth in inter-county travel, while red in the outlying areas of suburban development indicate a need to complete the arterial system. Map IV-3 also highlights difficulty in traveling on east-west arterials in the southwestern area of the county. Similar hardships would be found in nearby northwest Davis County. Congestion would significantly increase the time required to reach and return from I-15 and major activity and employment centers near I-15. Traveling on I-15 itself to and from Weber and Salt Lake Counties would be much slower also. The main north-south freeway does not look much better in Salt Lake County. In addition, virtually every arterial in the southern and western sections of that county would experience severe congestion. Access to the airport, downtown, and the University of Utah would also be difficult. In summary based on the above discussions, highway needs over the next 30 years include:

Weber County Needs
- Improve east-west travel in southwest Weber County
- Increase north-south capacity to serve the growth in travel between counties
- Improve access to major traffic generators, including Weber State University, McKay-Dee Hospital Center, Ogden Central Business District, Business Depot Ogden, and Newgate Mall
- Provide better access to Interstate 15
- Complete the arterial street system

Davis County Needs
- Provide increased capacity for east-west travel in northwest Davis County
- Increase north-south capacity to serve the growth in travel between counties
- Improve access to major traffic generators, including Hill Air Force Base, Clearfield Freeport Center, and Layton Hills Mall
- Provide better access to Interstate 15
- Complete the arterial street system

Salt Lake County Needs
- Provide increased capacity for east-west and north-south travel in southern/ western Salt Lake County
- Increase north-south capacity to serve the growth in travel between counties
- Complete the arterial street system
- Improve access to major traffic generators, including Salt Lake Central Business District, University of Utah area, Salt Lake International Airport, several malls, and a few industrial parks.

The relative need for individual highway capacity improvements are included in Appendix C where potential projects are rated against various criteria, including: volume to capacity ratio, hours of delay, accident rate, and proximity to hazardous waste sites, seismic zones, surface water sources, schools, railroad crossings, wetlands, crop land, and parks. These criteria are summarized into rankings for environmental, congestion, and needs.

As the Salt Lake Urbanized Area continues to grow, transportation demand will increase as well. The high growth in population and employment in the region has led to an even greater increase in the number of trips made. This trend is projected to continue well into the future. The continued growth of employment in Salt Lake City combined with the significant population growth projected for the suburban areas in south Salt Lake County and south Davis County will result in the need for additional transportation capacity. However, the expected growth in employment in the suburban areas will also create additional demands on the local transportation system. In order to serve this demand, improvements in all segments of the transportation system including highways, transit, and other modes will need to be made. In addition, all these modes will need to be linked with all other parts of the transportation system, including railroad and airport facilities, to provide for a balanced, efficient transportation system. The Urbanized Area's multifaceted transportation demands in 2030 will need to be met by improvements to highways, transit, other modes, and intermodal facilities.

TRANSIT IMPROVEMENT NEEDS

Based on past experience, new and expanded highways will not be able to keep up with the growth in travel in the Wasatch Front Urban Area. Transit, therefore, will need to play an even bigger role in the future than its does now. Expanded transit service in the region will need to serve two primary markets:

- Persons who are dependent on transit for transportation because they lack access to an automobile or because they cannot drive.

- Persons who choose to ride transit because it is an attractive alternative to driving.

Transit Dependent Users

Transit dependent users are usually those who choose not to have multiple vehicles, low-income persons without access to an automobile, younger or older persons who cannot drive, or persons with disabilities. Serving the transit dependent travel market requires good service coverage in areas with high proportions of transit dependent residents. These areas tend to have higher than average residential densities. In addition to the areas of coverage, hours of service is also important in providing access to jobs and other services. A consistent concern of transit users and some community groups has been that evening service is inadequate and a hardship for the transit dependent. While UTA has sign improved night and weekend service since the approval of the transit sales tax referendum, greater efforts will be needed in the future.

Accessibility to transit service is an important need for persons with disabilities. All of UTA's current bus and rail fleet is wheelchair accessible. However, access to vehicles is only one aspect of the problem. Some persons are unable to get to the bus stop or rail station on their own. For these persons, UTA provides supplemental curb-to-curb paratransit service. As the population of persons with disabilities grows, additional accessible regular transit service, as well as paratransit service, will be needed.

The future needs of transit dependent users will likely be served primarily by UTA's bus system. While rail transit can play a role in serving their needs, it will only serve a few specific corridors. Bus service will be more convenient in providing access to transit and to major employment and other activity centers for transit dependent persons.

Transit Choice Users

Choice users are those persons who have access to an automobile for a trip, but choose to take transit. In order to attract choice users, transit must provide an attractive alternative to driving in terms of convenience, travel time, and cost. Transit choice users can be attracted to transit in travel markets with longer trip distances, congested travel conditions, and concentrated trip destinations where a higher level of transit service can be supported. Choice riders may use their automobiles to reach transit routes at park-and-ride lots. The focal points for transit routes serving choice users will be at the major activity centers in the Wasatch Front Region.

Current bus frequencies are 20-30 minutes or more in most cases. This infrequent service is especially inconvenient for most transit choice riders. It requires that the user adapt to the bus schedule or risk waiting for long periods. It also adds significant waiting time to any transfer required. Reducing time between buses on even a portion of the more heavily used routes could significantly improve service levels for transit dependent and attract new choice users with reduced waiting times.

One of the biggest challenges of basic transit service is low speeds. A regular route bus can be expected to average 12 to 15 miles per hour. Local Buses are limited by the speed of traffic, as well as the time required to stop to load and unload passengers. Higher speeds could have the double benefit of attracting new riders and reducing operating costs. Rail, Bus Rapid Transit (BRT), Enhanced Bus, and Express Buses all have proven ability to increase transit speeds and be attractive to choice transit users.

Where ridership is anticipated to be very heavy and a continuous right-of-way is available, transit speeds can be dramatically increased by implementing rail transit. Where ridership is anticipated to be heavy and congestion is anticipated to be significant ,yet a continuous right-of-way is not available, BRT can realize much of the speed associated with rail by use of intermittent bus lanes to bypass spot congestion. Where ridership is anticipated to be heavy yet congestion is not anticipated to be significant, Enhanced Bus lines can offer increased speeds and many rail-like amenities that choice riders find attractive.

Corridors where these transit investments are recommended should have the following characteristics:

1. The corridor should have the Central Business District or another major regional activity center, such as a college or university, as an anchor.

2. The roadways in the corridor should be congested to allow the transit travel time to be competitive with the automobile.

3. There must be a significant enough number of trips in the corridor to justify an investment in transit.

Summary

The Wasatch Front Urban Area Long Range Transportation Plan: 2004-2030 should address the following transit needs:

1. Added capacity and greater efficiency to UTA's existing transit services. Several routes, including the north/south and University of Utah light rail lines and the Utah Transit Authority's regional express bus services, experience overcrowding on a regular basis. The north/south TRAX system needs to be upgraded to include double tracking along its entire length, more vehicles, and more parking. Major bus routes experiencing high levels of overcrowding, unreliability, and excessively slow travel times should be improved, focusing on capacity, frequency, and speed enhancements.

2. Expanded bus service to better meet the needs of those persons dependent on transit. This expanded service should include greater area coverage to provide access to major employment centers, medical facilities, schools, and other major destinations. In addition, service on weekends and holidays and in the evening should be evaluated for further increases.

3. Intelligent Transportation Systems (ITS) implementation to improve the efficiency and effectiveness of transit.

4. Expanded paratransit service integrated with bus and rail service to meet the needs of persons with disabilities.

5. Expanded frequencies on a grid of bus routes extending throughout the region. This high frequency bus service may be modified existing bus routes or new routes and take the form of limited-stop or local service as well as peak only or all day service depending upon the nature of the surrounding land uses.

6. BRT/Enhanced Bus system creation. Create a system of BRT and Enhanced Bus lines where transit ridership and increases in transit speeds would justify such levels of investments or where higher levels of investments may be justified but a continuous right-of-way is not available.

7. TRAX system expansion. Expansion of the TRAX light rail system where a significant enough number of transit trips is anticipated in the corridor to justify such an investment and a continuous right-of-way has been identified.

8. Expanded inter-county service. The Utah Transit Authority's express bus service between Salt Lake and Ogden, Provo, and Tooele Cities are some of UTA's most popular routes. Future growth in the region will increase the demand for more inter-county service including Commuter Rail between Weber, Davis, Salt Lake and Utah Counties and Bus Rapid Transit from Salt Lake City to Tooele County.

9. Intermodal centers, transit hubs, and park and ride lots to provide connections between transit services and other modes.

OTHER TRANSPORTATION MODE NEEDS

Within the past several years, a considerable amount of attention has been being focused on bicycle and pedestrian facilities in the Wasatch Front Region Urban Area. There are several reasons for this interest, including the growing popularity of these activities for commuting and recreation. Typically, the bicycle

and pedestrian modes are used for relatively short distances and sometimes in conjunction with auto and transit trips. More times than not, those riding mass transit will walk to the bus stop or light rail station, and bicyclists have the opportunity to take their bicycles with them on these transit modes. Specific facilities for bicycles and pedestrians are normally provided within street rights-of-way in the form of wider roadways, shoulders, bike lanes and sidewalks. Also, separate trail facilities can be provided.

According to the 1990 Census, about two percent of the work trips in the region were made by walking, while about one-half percent were made through the use of bicycles. The demand for appropriate bicycle and pedestrian facilities has been growing. State, regional, and local policy-makers have been made increasingly aware of pedestrian/bicycle safety needs in the region, which has recently resulted in the construction of some pedestrian/bicycle bridges in areas that have been particularly hazardous, or presented a formidable barrier to non-motorized vehicles.

The primary consideration in meeting the needs of pedestrians and bicycles must be safety. Safety considerations for pedestrians include adequate sidewalks and street crossing opportunities. For bicyclists, a system of separated bikeways and designated routes on safe streets which allows free movement throughout the Wasatch Front Region is needed. School children represent a special class of pedestrians and bicyclists who require unique facilities to ensure their safety.

One of the goals of the Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030 is to improve pedestrian and bicycle linkages to many of the urbanized areas' major special generators, such as the University of Utah, Weber State University, Salt Lake Community College, downtown commercial districts of Salt Lake and Ogden Cities and the malls, and major employment centers. Also, the Wasatch Urban Area 2030 LRP Update has provisions that will result in improved linkages from residential areas to primary and secondary schools, parks, transit facilities, and mountain recreation trail heads and other recreation facilities.

INTERMODAL FACILITY NEEDS

Intermodal facility needs are those fixed facilities that provide efficient, economical, and timely transfer of passengers and goods from one mode to another. While intermodal facilities are most noted for enabling easy transfers, they are also credited with reducing fuel consumption, mobile source air pollutants, traffic congestion, and destination parking requirements. Additionally, intermodalism is viewed as a catalyst for more deliberate land use considerations and planning.

Intermodal facilities provide connections between various modes of travel for passengers and the movement of freight. Intermodal facilities, which connect local bus service, light rail transit, rail freight, truck freight, interstate bus lines, automobiles, Amtrak, regional commuter rail, taxis, shuttles and local airport passenger and freight terminals, are increasingly important in ensuring the efficient operation of the Wasatch Front Urban Area's transportation system. While the highway system plays a key role in how many of the different modes of transportation function, intermodalism must be paramount in the development of both passengers and freight transportation systems to provide seamless transfers between various modes. ISTEA's and TEA-21's focus on intermodalism favors projects such as transit links to airports, park- and-ride lots and or multi-modal stations that allow travelers to transfer from one mode to another.

Intermodal Railroad Freight Service

Rail transportation has been a vital transportation asset within and throughout the Wasatch Front Urban Area for over a century and continues to be a critical element to the region. The Area is served by freight and passenger rail service including the Union Pacific Railroad, Amtrak, and privately owned railroads that serve local business and industry. Union Pacific operates three separate intermodal terminals within the Wasatch Front Urban Area. The freight intermodal facilities are located in Clearfield, adjacent to the Freeport Center, on the northern limits of Salt Lake City near Beck Street, and in South Salt Lake City at approximately 2700 South and 700 West. They are unable to adequately expand theses facilities and are experiencing degrading ground transport access due to the growing urban population and increasing industrial base.

As part of their agreement with the Utah Transit Authority to sell them several rights of way, Union Pacific is beginning the process to consolidate the intermodal facilities with the intention of improving efficiency. By consolidating facilities to a location that allows for expansion and provides improved access for ground transportation to the highway system the Union Pacific would vacate significant properties near the urban centers.

Intermodal Railroad Passenger Service

Amtrak provides national rail passenger service to and from the Wasatch Front Urban Area through Salt Lake City. The station was relocated to the designated site of the Salt Lake City "Gateway" Intermodal Center.

Transit Hubs

Transit Hub designations at light rail transit stations and other key locations throughout the Wasatch Front Urban Area help increase access to LRT and other modes of public transportation. Realignment of local bus service routes through transit hubs and LRT stations provides additional opportunities for travelers to reach their destinations.

Intermodal Centers

There is a need for intermodal connections in downtown Salt Lake City and Ogden City. Both cities are serve or will be served by a variety of transportation modes. Intermodal centers will provide for efficient transfer of travelers between different transportation modes. Intermodal Centers have been designated in Ogden City, Salt Lake City, and West Valley City. The centers were pursued as the most efficient means to serve the increasing travel demand to and from the Urban Areas. While all three centers are located to effectively accommodate regional commuter rail and light rail connections they also support other transportation modes including local/express/regional (Greyhound) bus service, airport/hotel shuttles, light rail transit, taxis, pedestrians, bicycles and park-and-ride lots. The essence of these centers is to make travel to and from a destination faster, more convenient, and less complicated.

Park-And-Ride Lots

Park-and-ride lots provide a reliable and convenient location for people to park and leave their vehicles, join a carpool or vanpool or to board public transportation. They facilitate the transition from single-

passenger vehicle travel to multiple passenger vehicle travel and the reduction of fuel consumption, mobile source air pollutants, traffic congestion and destination parking requirements. The strategic locations, increasing number and size of park-and-ride lots play an important role in achieving continuity of the intermodal needs of the Wasatch Front Urban Area.

Other Transit Needs

Along with the rest of the nation, the Wasatch Front Region will experience stresses in its social and infrastructure fabrics as the "Baby Boomer" population begins reaching retirement age about 2010. In addition, medical advances and the availability of new technology is also allowing people with physical and mental disabilities to live longer and to participate more fully in mainstream activities. With the lengthening of the average life span, it is fully anticipated that the population of senior citizens, augmented by the "Baby Boomers," will grow disproportionately to the increase in overall population. It should be noted that the "frail elderly" are defined as person 75 years of age and older. It can be assumed that the need to provide accessible transit to serve their needs, along with the growing population of persons with other non-age related transportation disabilities, will increase at a rapid rate.

The Utah Transit Authority's current system of specialized, complementary paratransit services primarily caters to persons with non-age related transportation disabilities. Persons who use these paratransit services must go through a comprehensive evaluation process to establish that they cannot functionally access or use the fixed route services. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 assumes that this situation will continue into the future.

The growing density of population along the Wasatch Front has created the conditions necessary to support an expanded fixed-rail public transit system, along with expanded bus service. All future bus, light rail, commuter rail service, and support facilities, such a rail stations, intermodal centers, and transit hubs, should be accessible and functional as defined by the Americans with Disabilities Act (ADA) Guidelines. While these services and facilities will meet the needs of many persons with mobility limitations, others with multiple cognitive and developmental disabilities will continue to need paratransit services.

These services are provided directly by UTA in Salt Lake County through its Flextrans program which utilizes specialized vans. The Weber Basin Disabled Association provides paratransit services under contract with UTA in Davis, Box Elder, and Weber Counties through a program called "HandiTrans." The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 assumes that the current arrangements for paratransit service will continue into the foreseeable future, although contractual arrangements are subject to change.

UTA interfaces with its special needs clients through an advisory committee made up of persons with disabilities and their representatives. The Committee On Accessible Transportation (CAT) provides constant review of all services and concerns to assure on-going compliance with ADA guidelines. In order to plan for future needs, UTA representatives should maintain a close liaison with agencies of state and local governments that are planning for the needs of persons with physical and mental disabilities. By working together, all of the specialized transportation resources that are available to the Utah Transit Authority and client based agencies can be utilized as effectively as possible and tailored to the needs of agency clients.

FREIGHT MOVEMENT

The Wasatch Front Urban Area is an integral cog in the Nation's freight network, accommodating large volumes of truck and rail traffic. Rail traffic primarily moves through the area from East-to-West, or vice versa, while trucks frequently move East-and-West and North-and-South. Rail has little presence in the North-South corridor due to the difficulty of traversing the rugged terrain in Southern Utah and Northern Arizona, such as the Grand Canyon. While approximately two thirds of all truck movements have origins and destinations outside the Wasatch Front Region, movements within the Urban Area represent a significant percentage of vehicles on local streets.

The importance of the Wasatch Front as a freight hub, serving large local and intercity truck and rail volumes, presents many difficult planning and safety challenges which must be addressed. A critical component of safe and efficient freight movement is the need to provide and maintain adequate access to industrial areas that contain trucking, bus, rail and air freight terminals.

Truck Freight

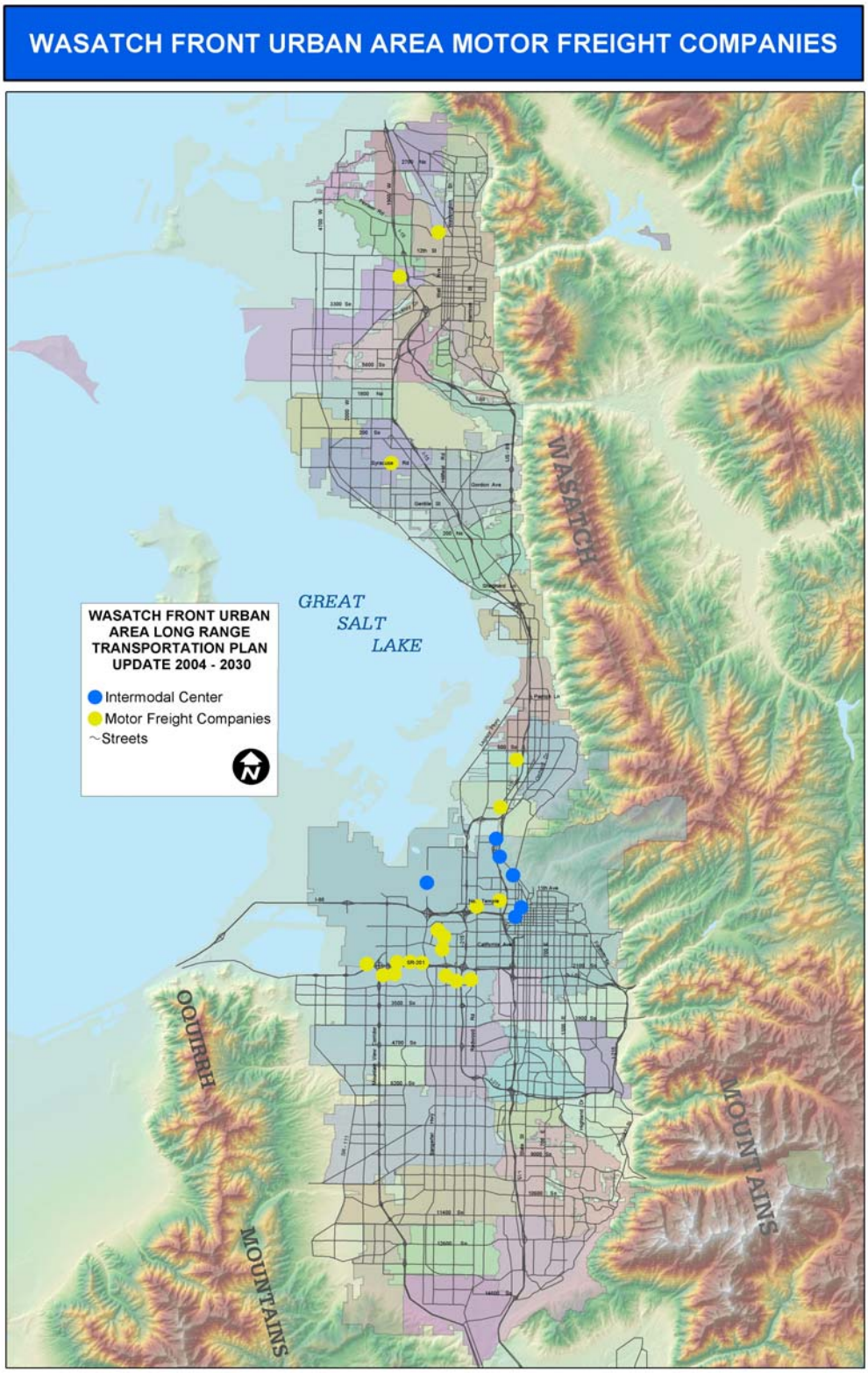
The Salt Lake Urbanized Area has numerous large trucking companies concentrated between I-80 and the 2100 South Freeway (SR-201), west of I-15. Union Pacific currently operates an intermodal center in the northern industrial section of Salt Lake City, adjacent to I-15, where containerized freight can be efficiently transferred between rail and truck and quickly transported to its next destination. The Salt Lake International Airport is located within a few miles from I-215 and I-80, nearby the Salt Lake International Center, which is a light industrial business park with a connection to the rail network. Several petroleum refineries are located along rail lines in Davis County, a location that allows quick and efficient transport of crude and refined oil.

The Ogden/Layton Urbanized Area has several important freight distribution centers and trucking companies, which serve the freight needs of the residents of the Wasatch Front and beyond, such as the Freeport Center, the Ogden Industrial Park, and Weber Industrial Park. These companies and facilities are located near I-15 and the rail lines adjacent to I-15. Other important locations, from a freight perspective, include Hill Air Force Base and the Hinckley Municipal Airport, which both have good access to I-15 and are near I-84.

The Utah Trucking Association (UTA) estimates that the number of trucks delivering freight on Utah roadways is increasing 2 to 3 percent annually. The United States Census Bureau conducted nationwide commodity flow surveys of freight shippers in 1993 and 1997 and estimated that truck shipments in Utah increased by 17 percent in monetary value, by 47 percent in terms of weight and by 31percent in terms of ton-miles, while the average trip length decreased. In other words, there are more trucks, carrying more weight and traveling shorter distances each year in Utah. There are between 1000-1200 trucking companies in Utah that are members of the UTA, including many privately owned lines operated by large-scale commercial interests such as K-Mart, Rite-Aid, Wal-Mart and other, similar companies. Map IV-2 shows the distribution of major motor freight companies throughout the Wasatch Front Urban Area.

In general, freight trucking companies are concerned with safety and congestion. Company management is concerned with the short-term performance of the transportation system, such as when bottlenecks occur due to construction, often resulting in service disruptions. Managers also recognize the need for

Map IV-2


WASATCH FRONT URBAN AREA MOTOR FREIGHT COMPANIES
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Intermodal Center
Motor Freight Companies
Streets
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

long-term planning and, as such, the industry supports the development of ITS technologies to help with real-time routing. The Utah Trucking Association also supports longer-term capacity upgrades such as the proposed Legacy Highway and arterial upgrades that would facilitate movements within urban and suburban areas. The UTA suggests that the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 might consider freight-only lanes on highways, higher size limits, speed lanes and more liberal weight limits to help individual trucks move more weight.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 encourages the location of trucking businesses near convenient access points to the National Highway System, as well as new transportation improvements that offer alternative routes between origins and destinations for both freight shippers and other modes of transportation. Table IV-3 lists the five largest trucking companies in the Wasatch Front Urban Area, in terms of numbers of trucks operated in Utah, for full load companies. A full load company is defined as a trucking firm that sorts entire trailer loads destined for a single receiver. The four largest less-than truckload companies, or those firms that carry multiple freight destinations in a single trailer, are listed in Table IV-4. Each of these companies is located very near the National Highway System.

Table IV-3

WASATCH FRONT URBAN AREA
LARGEST FULL LOAD TRUCKING COMPANIES

Trucking Company	Address	Number of Employees	Number of Trucks In Utah
C.R. England, Inc.	4701 West 2100 South, West Valley City	1,000	2,500
Central Refrigerated	5175 West 2100 South, West Valley City	400	1300
Swift Transportation	3720 West 800 South, Salt Lake City	300	350
Pride Transport	5499 West 2500 South, West Valley City	321	213
Godfrey Trucking	6173 West 2100 South, West Valley City	50	80

Table IV-4

WASATCH FRONT URBAN AREA
LESS THAN TRUCKLOAD COMPANIES

Trucking Company	Address	Number of Employees	Number of Trucks In Utah
Motor Cargo Industries	845 West Center Street, North Salt Lake	350	650
Yellow Transportation	2410 South 2700 West, West Valley City	361	97
Link Trucking, Inc.	1235 South 3200 West, Salt Lake City	100	82
ABF Freight Systems, Inc.	55 South Redwood Road, Salt Lake City	150	40

Railroad Service

The Union Pacific Railroad is the largest rail freight operator in the Wasatch Front Region. Their acquisition of the Southern Pacific Railroad gave them control of nearly all the local rail assets. In general, Union Pacific is concerned with safety and the impact that interacting with different modes has on operations. As such, all at-grade crossings are a serious concern. Every consideration should be given to minimize the number of at-grade crossings because they hinder freight movements, pose dangerous safety hazards and interrupt vehicle and other person-movements attempting to cross the tracks at the same time. Downtown Salt Lake City also presents bothersome service disruptions, as trains have to slow to proceed through the Grant Tower area near South Temple Street. Union Pacific would like to be able to increase the speed of trains through this area to eliminate a major bottleneck in their system.

CANAMEX Corridor

In 1995 Congress designated as a high-priority transportation corridor the north-south highway corridor that includes I-15 through Utah and extends from Canada to Mexico, subsequently known as the CANAMEX Trade Corridor. Following the passage of the North American Free Trade Agreement (NAFTA), policy-makers and planners embarked on a study to identify opportunities for innovation along the CANAMEX corridor, looking for ways to develop safe and efficient multi-modal transportation facilities, enhancing global competitivenessand improving the quality of life.

The coalition leading the study identified five initiatives to help achieve these goals. Three of the initiatives involve bringing telecommunications investment to poorer rural communities in the corridor, integrating and increasing the promotion of attractions along the corridor, and advancing and integrating e-commerce and e-government capabilities. Two of the initiatives directly address freight issues, recognizing the importance of this freight movement in this corridor to the success of NAFTA and to the future of free trade. Due to the difficulties of moving rail cars through this corridor (particularly in northern Arizona), most freight movement that currently takes place in this corridor is by truck and the CANAMEX study focused on this reality, solely addressing trucking needs.

One initiative involves developing a smart freight corridor. This initiative would use intelligent transportation system technologies to provide service information oriented to commercial vehicle operators and motor carriers. Motor vehicles moving along the corridor would be able to find out the location of rest stops, truck stops, ports of entry, requirements at border crossings and permits, as well as real-time information on traffic conditions, construction and weather. A second initiative is the improvement of highways along the corridor to meet growing traffic needs, both by maintaining and upgrading existing facilities. Of particular relevance is the study's call for widening I-15 in Bountiful to 12 lanes and, less specifically, widening I-15 north of Ogden (to Brigham City) to accommodate what will soon be urban growth. The study advocates the construction of the Legacy Highway.

In 2001 the Smart Tourist Corridor Initiative was developed by the Multi-State CANAMEX Corridor Coalition. With the assistance of the Western Transportation Institute at Montana State University, a scope of services for development of the CANAMEX Smart Tourist Corridor Action Plan have been identified. The purpose of this initiative is to develop new tourism themes and products along the Corridor. This initiative has five elements: (1) Utilization of ITS technology and investment to enhance the safety and quality of the tourist experience, (2) Outreach to local tourism and economic development

officials to integrate local products into regional marketing programs, (3) Development of a new common branding concept, (4) Development of new tourism products in support of that branding concept, and (5) Cooperative marketing campaign based in part upon those products and concept. A report defining the Smart Tourist Corridor and operations plan for integrating transportation and emergency response services will be published in the first quarter of 2004.

AIR TRANSPORTATION

A viable system of airports is essential in promoting economic activity and the movement of goods and services to and from the Wasatch Front Urban Area. Air transportation is set to become one of the biggest economic drivers in the nation, just as the Federal Interstate Highway system was in the 1950's and 1960's. Because construction of new airports in the Wasatch Front Urban Area is infeasible, existing airports must be protected from encroachment and incompatible development. At the same time, airports must be accessible by ground transportation. Airports must be improved to take advantage of new technology and serve the air transportation and economic needs of the region, while minimizing impacts to surrounding communities. The Wasatch Front Urban Area's airports consist of the Salt Lake City International Airport (SLCIA), Ogden Hinckley Airport, Hill Air Force Base, Salt Lake City Airport No. 2, and Bountiful Skypark Airport.

Salt Lake City International Airport

The Salt Lake City International Airport (SLCIA) is a vital component of the state's transportation infrastructure and is the heart of the Metropolitan Airports System. The airport is located approximately five miles west of downtown Salt Lake City near the intersection of I-215 and I-80. The Salt Lake International Airport is owned by Salt Lake City and is operated by the Salt Lake City Department of Airports. The SLCIA serves the air travel needs of the majority of Utah and portions of the surrounding states of Nevada, Idaho, Wyoming, and Colorado. Since 1985, SLCIA has been classified as a large hub airport, meaning the airport enplanes more than 1 percent of the nation's total passengers. In 2000, the SLCIA ranked 24th, nationally, in passenger enplanements, while processing over 9,900,000 enplaned revenue passengers. Since 1996, changes in the Delta Airlines system have reduced the number of connecting passengers at the SLCIA slightly, while local passengers, or those with the Salt Lake City International Ariport as origination or destination, have increased roughly in proportion to population growth in Utah. The net result has been a relatively constant number of total annual enplaned and deplaned passengers of approximately 19,000,000.

Air cargo consists of two types, that carried by passenger aircraft and that carried by all-cargo carriers. In term of all-cargo service, in 1999 the Salt Lake City International Airport ranked 25th nationally with 805,329 gross landed tons. This was an increase of 35.2 percent from 1994. While growth in passenger enplanements has been relatively flat during the last three years at the SLCIA, cargo enplanements have been a gradually increasing annually, although at a much slower rate than was seen during 1994 through 1997. This increase in all-cargo tonnage has, and should continue to have, a limited effect on surface routes around the airport. This is because the Salt Lake International Airport also functions as an air cargo hub, and the majority of cargo is transferred from aircraft to aircraft and does not have a local origin or destination.

The SLCIA is also the largest airport in Utah in terms of general aviation activity. The airport has over 400 general aviation aircraft based on the east side, including many large corporate jet aircraft. In 2000, the SLCIA accommodated almost 367,000 annual operations, and approximately 91,500 (25 percent) of these were by general aviation airplanes. A trend of increasing general aviation operations while commercial passenger and cargo operations have been relatively flat has continued for several years. SLCIA is expanding facilities at nearby reliever airports to accept more general aviation aircraft and operations in the future.

Airport surface access is easy and efficient for a large hub airport. Passenger access is provided from both I-80 and I-215 as well as North Temple Street and Bangeter Highway. At present, cargo facilities at the SLCIA exist on both the north and south ends of the airport. Access for air cargo facilities on the south is via the above mentioned passenger access routes. Access to the air cargo facilities on the north is via I-215 and 2200 North. All future expansion of cargo facilities at the SLCIA is planned for the north end of the airport, and roadway access to this area of the airport is excellent. Current transit service consists of a single Utah Transit Authority bus route. Local hotel shuttles, private vans, and taxicabs are also available.

Ogden Hinckley Airport

The Ogden Hinckley Airport is located approximately two miles southwest of the Ogden City center and directly alongside I-15. The airport is owned and operated by the City of Ogden. The Ogden Hinckley Airport's role in the Metropolitan Airports System is as a general aviation reliever for Salt Lake City International Airport, and the airport's service area includes Ogden and surrounding Weber and Davis Counties. The airport's location provides direct access to nearby manufacturing and recreational sites, and it is a popular refueling stop for cross country flights. The Ogden Hinckley Airport has three runways and an air traffic control tower which make it an ideal location for recreational, training and business flying. The current general aviation basing capacity exceeds 400 aircraft. A private air park is currently being developed on 26 acres along the south side of the airport, which will further expand basing capacity. The Ogden Hinckley Airport currently has approximately 285 based airplanes and experiences approximately 105,000 annual operations. Surface access to the airport is excellent. I-15 runs adjacent to the airport, and direct access is provided via Hinckley Drive. The Ogden Hinckley Airport can also be accessed easily from a number of arterial streets in the area, including 1900 West in Roy and Riverdale Road.

Hill Air Force Base

Hill Air Force Base (Hill AFB) is a major United State Department of Defense facility located in Davis County, approximately 20 miles north of Salt Lake City. Hill Air Force Base is operated by the United States Air Force as a major Air Logistics Center and base for tactical aircraft. Hill AFB is Utah's largest single employer and is the center of Utah's $1.4 Billion defense industry. Access to Hill Air Force Base is good, with direct connections to I-15 on the west and Hill Field Road on the south. US Highway 89 is located approximately three miles east of Hill Air Force Base and provides important access from eastern sections of Ogden and Davis County.

Salt Lake City No. 2 Airport

Salt Lake City No. 2 is a general aviation airport located in West Jordan, approximately nine miles south of SLCIA. The airport serves as a general aviation reliever for SLCIA and is home to the Utah Army National Guard's Aviation Support Facility. This airport serves as important role in the system by providing a convenient basing location for general aviation and military aircraft. Training, recreational, business and military flight operations prevail at this airport.

Current activity at the airport is approaching 70,000 annual operations and 235 based aircraft. Although the SLCDA is expanding the Tooele Valley Airport in Erda (Tooele County), Salt Lake City Airport No.2 will continue to attract general aviation activity because of its location. Both operations and demand for basing will continue to grow, although basing will grow at a somewhat flatter rate than operations. Current basing capacity is restricted by ordinance to 400 aircraft.

Constrained airspace is a significant problem for this airport. The Utah National Guard Aviation Support Facility has expanded and become more active. Approach and departure routes for the SLCIA air carrier runways pass directly overhead. Recent amendments to the Salt Lake City Terminal Control Airspace have provided more uncontrolled airspace to the south and west of the airport. However, aviation access to this airport is still greatly affected by airspace restrictions. These restrictions will be a major challenge as operations increase in the future. A GPS approach is available to the airport, although conflicts with SLCIA traffic often make the approach unusable during certain traffic flow conditions. This situation is similar to that between Ogden-Hinckley and Hill AFB.

This airport, located in a suburban residential area, has seen the rapid development of housing surrounding the airport. This problem may intensify as development continues in the surrounding communities, particularly West Jordan and Kearns. It is very possible that this airport may follow the trend of may other suburban airports and come under increasing pressure from the surrounding communities. Should this airport close, the Utah National Guard Facility would have to relocate (probably to Camp Williams) and new basing would be required for up to 400 general aviation airplanes. Future development plans include general maintenance and rehabilitation of existing pavements and expansion of aircraft basing facilities to accept more general aviation airplanes from SLCIA. Surface access to the airport is fair. The majority of trips originating from the east access the airport via I-15 and 6200 South or 7800 South, both of which are congested during peak travel times. Bangerter Highway provides a mid-valley access to these same east-west arterials. Widening of both roadways in currently included in the five-year Transportation Improvement Program.

Bountiful Skypark Airport

Bountiful Skypark Airport is a privately owned, public-use general aviation airport, located on Redwood Road in Wood Cross City. The airport is located six miles north-northeast of Salt Lake City International Airport, It serves the general aviation needs of northern Salt Lake County and Davis County. With over 160 based airplanes, and more than 50,000 annual operations, Bountiful Skypark Airport plays a vital role in the Metropolitan and State Airport Systems. Skypark Airport provides an economical and convenient niche for a large number of recreational and experimental aircraft and effectively relieves congestion at other Salt Lake Valley airports. Training, business basing, helicopter operations and aircraft maintenance are also present. Surface access to the airport is suitable for a facility of this size. Primary access is via Redwood Road, which connects to I-215 south of the Skypark Airport. Completion of the Legacy

Parkway in western portion of Davis County will improve this access even further. If local business development continues in this area of Davis County, basing demand at Bountiful Skypark Airport could exceed airport capacity within the next 10 years.

PAVEMENT PRESERVATION NEEDS

In 2001, the Wasatch Front Urban Area had approximately 4,430 lane miles of freeway and arterial streets. The existing street and highway system is a critical asset to the communities of the Wasatch Region and must be maintained in a reasonable condition. Failure to do so results in significant additional vehicle maintenance costs to the traveling public and can compromise safety. In addition, inadequate maintenance results in greater overall costs when complete reconstruction becomes necessary prematurely.

Pavement condition throughout the Wasatch Front Region was rated in terms of ride smoothness, using the International Roughness Index (IRI), and distress, as per the Crack Density Index (CDI). The data were collected as part of a 1997 condition survey, using lasers and other automated equipment. The results of this survey are displayed in Figures IV-9 and IV-10 respectively. Preparations for updating this information are underway with the anticipation to collect data during 2004. This information will be distributed to local governments to assist them in the preservation of their pavements. A pavement preservation goal for the overall condition of the system is to maintain current percentages of each condition rating. Current funding levels are in the range of $90-$100 million each year, including maintenance, surface treatment, rehabilitation, reconstruction, and miscellaneous costs.

Figure IV-9

WASATCH FRONT URBAN AREA
PAVEMENT CONDITION INTERNATIONAL ROUGHNESS INDEX

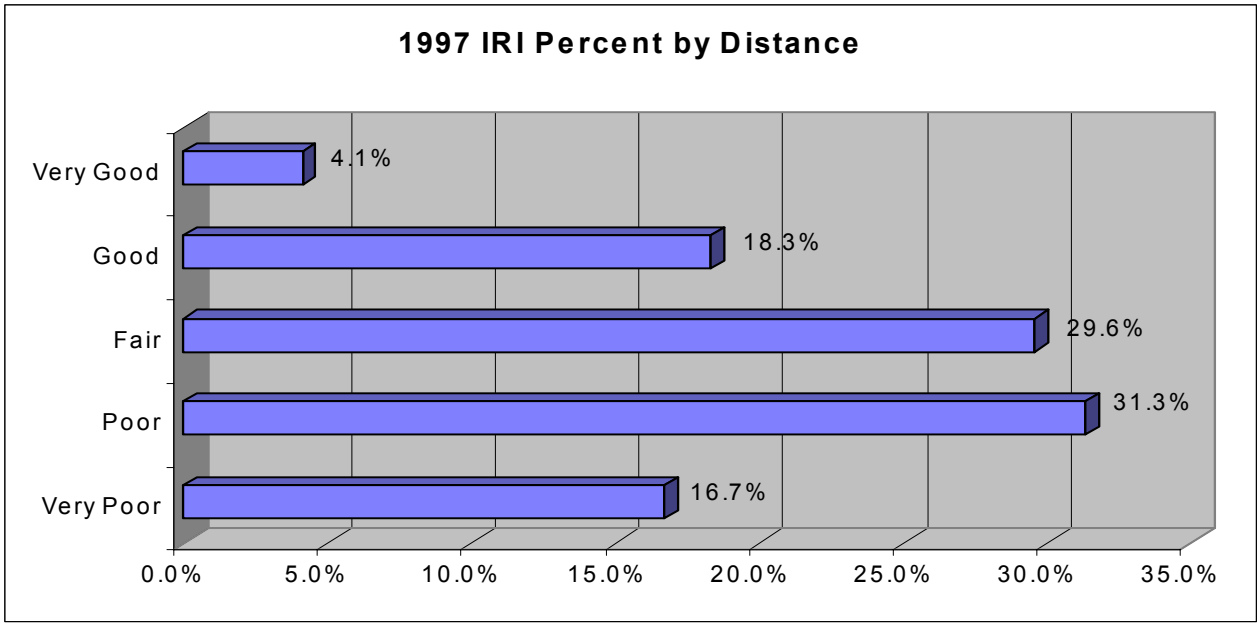
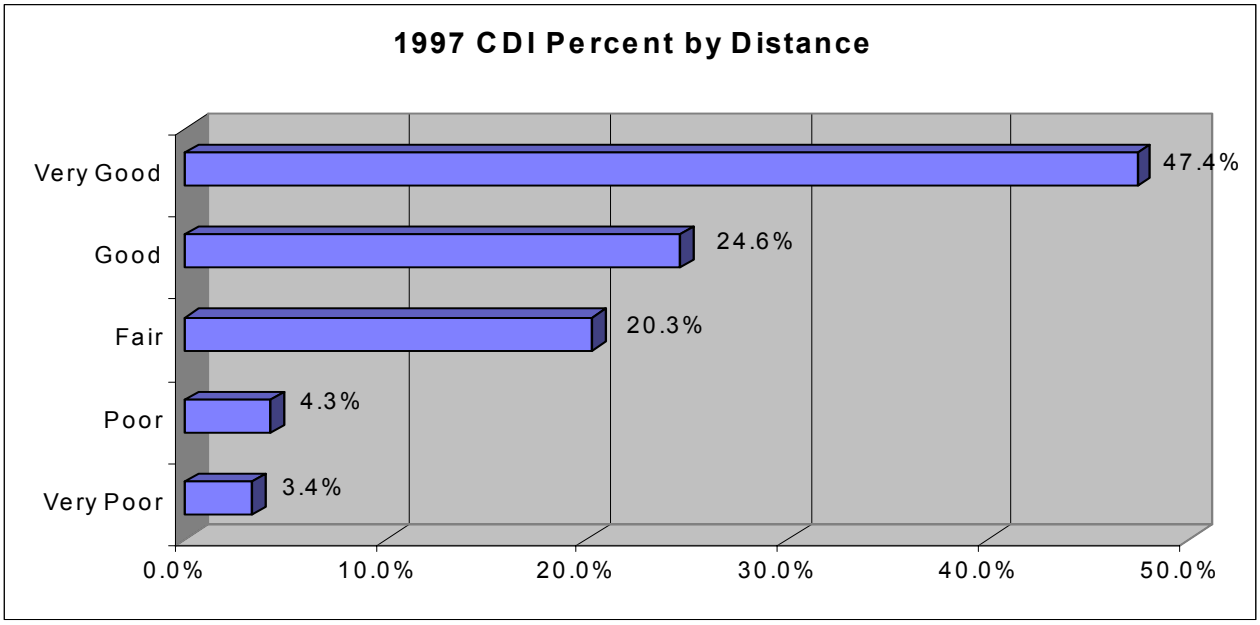


Figure IV-10

WASATCH FRONT URBAN AREA
PAVEMENT CONDITION CRACK DENSITY INDEX



V. LONG RANGE PLAN ALTERNATIVES

As part of the planning process for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030, a set of transportation alternatives was developed. Four distinct transportation alternatives, based on four different funding possibilities, allowed for various combinations of highway and transit improvement projects. These four transportation alternatives, along with a fifth alternative proposed by the 2030 LRP Update Stakeholders, were evaluated for their effectiveness in meeting projected travel demand and regional congestion. These alternatives were examined and refined by a variety of interest groups including the 2030 LRP Update Stakeholders, UDOT, UTA, the Weber, Davis, and Salt Lake Councils of Governments, Trans Com, the Transit 2030 Committee, Salt Lake and Ogden/Layton Transportation Technical Advisory Committees, and the general public. The 2030 LRP Update alternatives were evaluated for their effectiveness in meeting current and projected travel demand, improved safety, impact on the natural environment, and cost.

DEVELOPMENT OF ALTERNATIVES

The process of developing the four transportation alternatives began with the examination of four possible financial futures for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The alternatives range from a conservative "status quo" scenario, which assumes no significant funding beyond that currently available to an optimistic scenario, which allows for funding levels adequate to meet many of the identified transportation needs throughout the region. Each of the four 2030 LRP Update alternatives has a different emphasis and transportation direction.

The impact of the current economy on the state's gasoline and sales tax revenues and recent Utah State legislative actions have resulted in a shortfall of planned transportation revenues over the next 27 years. The first three transportation alternatives account for this shortfall in different amounts. The fourth alternative assumes adequate funding levels to finance all highway and transit improvement projects in the previous 2002-2030 Long Range Transportation Plan, along with accelerated phasing for selected transit projects. Table V-1 summarizes the financial assumptions used in developing the 2030 LRP Update alternatives and the amount of funding that is generated for both highway and transit projects.

Table V-1

FINANCIAL ASSUMPTIONS
ALTERNATIVE 1

Highway	Transit
• UDOT projected revenue from 2004 to 2030 • UDOT assumption of no general fund money after 2017 • Utah State gas tax increased $.05 in 2006 and then every 6 years after	• No new sales tax revenue through 2030 • Continue current 2030 joint development and community participation assumption of 10 percent of non-bus capital costs • Use 2002 as the base year for sales tax growth and reflect economic rebound in 2003
$8,855,000,000	**$2,273,000,000**

Table V-1 (Continued)

FINANCIAL ASSUMPTIONS
ALTERNATIVE 2

Highway	Transit
• UDOT projected revenue from 2004 to 2030 • General fund is extended from 2018 to 2030 with $60 million per year • Utah State gas tax increased $.05 in 2006 and then every 6 years after	• No new sales tax revenue through 2030 • Continue current 2030 joint development and community participation assumption of 10 percent of non-bus capital costs • Use 2002 as the base year for sales tax growth and reflect economic rebound in 2003
$9,281,000,000	**$2,273,000,000**

FINANCIAL ASSUMPTIONS
ALTERNATIVE 3

Highway	Transit
• UDOT projected revenue from 2004 to 2030 • General fund is extended from 2018 to 2030 with $60 million per year • Utah State gas tax increased $.05 in 2006 and then every 6 years after	• Equivalent of 1/4 cent sales tax increase in 2015 • Increase joint development / community participation assumption to 20 percent on non-bus capital costs • Use 2002 as base year for sales tax growth and reflect economic rebound in 2003
$9,281,000,000	**$6,922,000,000**

FINANCIAL ASSUMPTIONS
ALTERNATIVE 4

Highway	Transit
• UDOT projected revenue from 2004 to 2030 • General fund is extended from 2008 to 2030 with $100 million per year. • Utah State gas tax increased $.05 in 2006 and then every 6 years after	• Equivalent of 1/4 cent sales tax increase in 2010 • Increase in joint development / community participation assumption to 30 percent on non-bus capital costs • Use 2002 as the base year for sales tax growth and reflect economic rebound in 2003
$9,792,000,000	**$6,922,000,000**

DIRECTION AND EMPHASIS

Each of the four 2030 LRP Update alternatives, with differing levels of financial funding, allows for a specific direction and emphasis to be placed on highway or transit improvements. More funding on the highway side allows for more of the projects in the 2002-2030 LRP to be built during their recommended phasing. The same holds true for transit improvements. The following summarizes the relative differences among the four alternatives.

Alternative 1

Highway — Least amount of money available for highway improvements based on the assumption that there will be no state general fund money after 2017. A shortfall in highway funding is the result of this assumption and selected highway projects on the current 2002-2030 LRP will need to be moved back to a later phasing or moved to a non-funded illustrative category.

Transit — Least amount of money available for transit improvements based on no new sales tax revenue. Specific transit improvement projects on the current 2002-2030 LRP will need to be moved back to a later phasing or moved to a non-funded illustrative category.

Alternative 2

Highway — A reasonable financial assumption of continuing state general fund appropriations of $60 million per year for highway improvements after 2017. Despite this increase in funding, a shortfall still exists and specific highway projects on the current 2002-2030 LRP will still be need to be moved back to a later phasing or illustrative status. However, fewer highway projects are affected than in Alternative 1.

Transit — The same financial assumptions and project direction and emphasis as Alternative 1.

Alternative 3

Highway — The same financial assumptions and project direction and emphasis as Alternative 2.

Transit — An increase in local tax revenue, as the result of an increase equivalent to a 1/4 cent sales tax in 2015, along with a greater joint development and community participation contribution of 20 percent allows for more transit projects to be built or an earlier phasing of specific transit projects on the current 2002-2030 LRP.

Alternative 4

Highway — Financial assumptions include the possibility of a new Centennial Highway Fund, allowing for approximately $100 million per year in state general fund revenues for highway improvements after 2007. This increase in funding will finance all the highway projects on the current 2002-2030 LRP.

Transit — An increase in local tax revenue, as the result of an increase equivalent to a 1/4 cent sales tax in 2010, along with an even greater joint development and community participation contribution of 30 percent allows for more transit projects to be built, or an earlier phasing of specific transit projects on the current 2030 LRP.

ALTERNATIVE HIGHWAY AND TRANSIT PROJECT SELECTION

The various highway and transit elements of the four 2030 LRP Update alternatives were selected using a variety of analysis methods. The highway projects were evaluated and comparisons were made in five general areas: (1) financial cost; (2) volume/capacity ratio; (3) safety; (4) needs assessment; and (5) environmental impacts. A scoring for each project allowed for comparison and those highway projects that demonstrated the greatest need for increased capacity, exhibited a safety concern, and resulted in the least amount of environmental impact ranked the highest. The transit projects were evaluated in similar fashion with the analysis focusing on: (1) financial costs; (2) land use; (3) mobility improvement; (4) project justification; and (5) environmental benefits. Those transit projects that proved to be the most cost effective, had the highest ridership, and relative high speed over the next 27 years were ranked higher than those that did not.

Highway

The current 2002-2030 LRP list of highway projects was the starting point. A total of 68 segments of regionally significant interstate freeways, urban highways, and primary arterials were identified and evaluated. Financial costs were assigned each segment of highway, along with phasing costs adjusted for inflation. Peak period traffic volumes were compared with 2001 and 2030 highway capacities. The number of vehicle hours of delay were also evaluated. Highway safety examined both the current accident rate and accident severity by individual project. The highway needs assessment looked at congested locations, regional traffic generators, and specific highway needs identified in the 2002-2030 LRP.

Transit

The 2030 Transit Committee, a special task force appointed by the Wasatch Front Regional Council, helped identify new potential transit projects, including commuter rail, light rail, bus rapid transit, streetcar, and enhanced bus service. The 2030 Transit Committee was also instrumental in identifying funding sources for such improvements. A total of 66 regionally significant transit projects were identified and evaluated. Financial ratings for each project were determined and included capital costs, operating costs, and the amount of local financial support. Land use examined existing and proposed land use and transit supportive corridor policies. Transit mobility looked at current peak hour trips, low income households served, and peak hour speeds. Project justification examined projected ridership numbers and local support. Environmental concerns examined community impacts and ozone and CO reductions.

The following chart, Table V-2, lists the changes to the 2002-2030 LRP phasing for highway and transit projects for each of the four transportation alternatives. Eight maps, V-1 through V-8, accompany Table V-2 and graphically display both highway and transit projects for each alternative. Selected highway projects were moved to a later phase, or even illustrative status, in order for each highway alternative to remain financially constrained with the funding available. Transit projects are the result of recommendations provided by the 2030 Transit Committee. New projects, identified by the 2030 Transit Committee, including Bus Rapid Transit corridors, were added to the list. Selected projects that ranked low on the evaluation scoring were dropped from the list so that each transit alternative remained financially constrained with the funding available. The various transitways identified in the 2002-2030 LRP were assigned a representative transit technology, such as LRT, BRT, or enhanced bus. An outline of the planning process used to select both highway and transit projects for each of the four alternatives, along with additional selection criteria, are included in Appendix C.

Table V-2

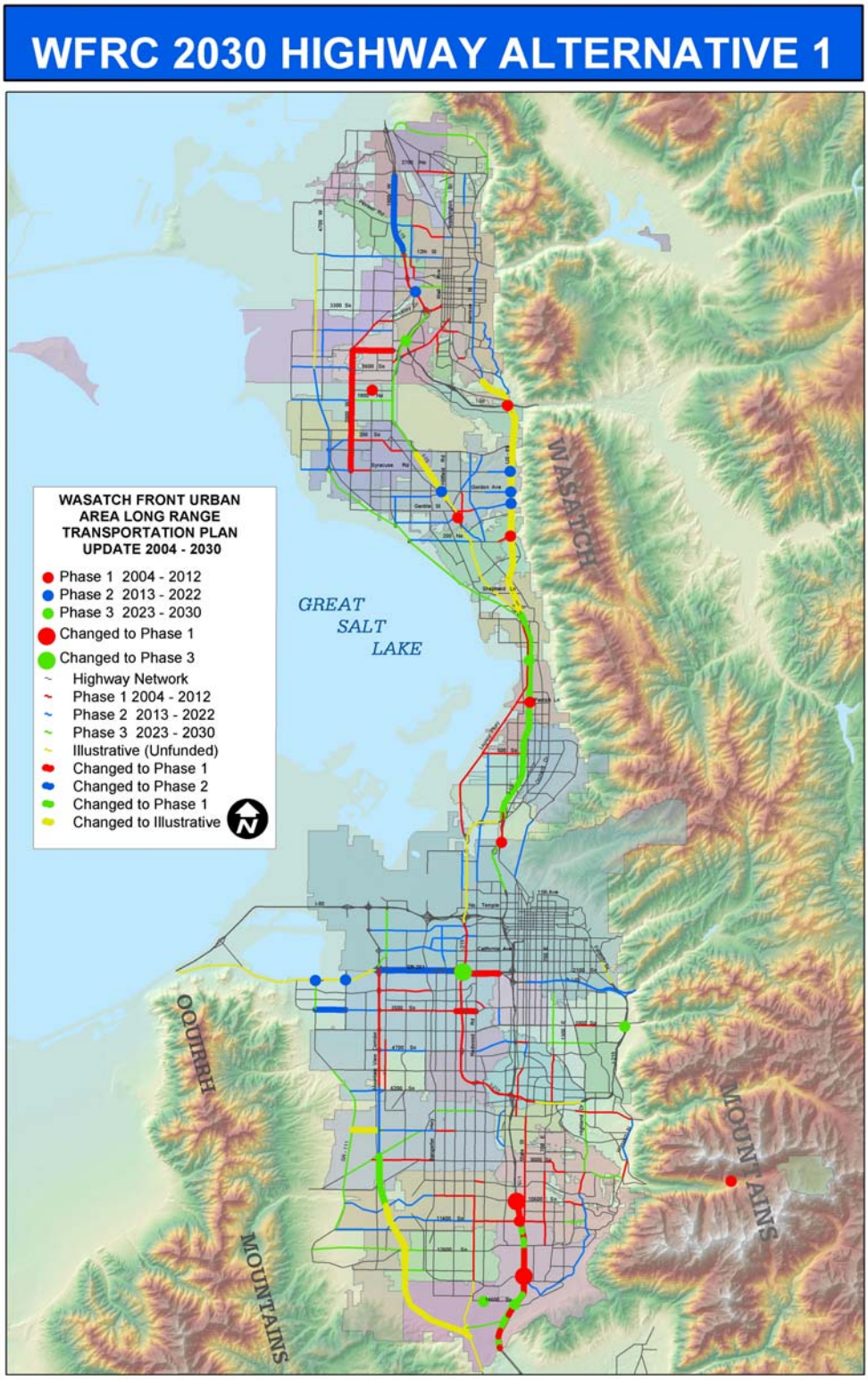
HIGHWAY AND TRANSIT PROJECTS
ALTERNATIVE 1

Highway	Transit
• I-15 - 2700 North (Pleasant View) to 12th Street (Ogden) from Phase 1 to Phase 2 • I-15 - SR-193 (Clearfield) to Hillfield Road (Layton) from Phase 3 to Illustrative • I-15 - US-89 (Farmington) to 500 South (Bountiful) from Phase 2 to Phase 3 • I-15 - 500 South (Bountiful) to I-215 (North Salt Lake) from Phase 1 to Phase 3 • US-89 - Harrison Blvd. (South Ogden) to I-15 (Farmington) from Phase 3 to Illustrative • Mountain View Corridor - 9000 South to 10500 South from Phase 2 to Phase 3 • Mountain View Corridor - 10500 South to 13400 South from Phase 3 to Illustrative • Mountain View Corridor - 13400 South to Redwood Road from Phase 3 to Illustrative Note: A group of highway projects that changed phasing but remained the same for each of the four alternatives is found in separate table on Page 79.	• Ogden to Weber State University from Transitway to BRT • Airport to Downtown SLC from LRT to BRT • South Davis from Transitway to BRT Added • 1300 East BRT North Section • Redwood Road BRT North Section • Fort Union BRT Dropped • 3500 South Transitway • Sugarhouse Transitway • Foothill Blvd/I-215 Transitway • Moutain View Corridor North Transitway Note: Funding permits construction of commuter rail, one LRT, and no BRT lines prior to 2013.

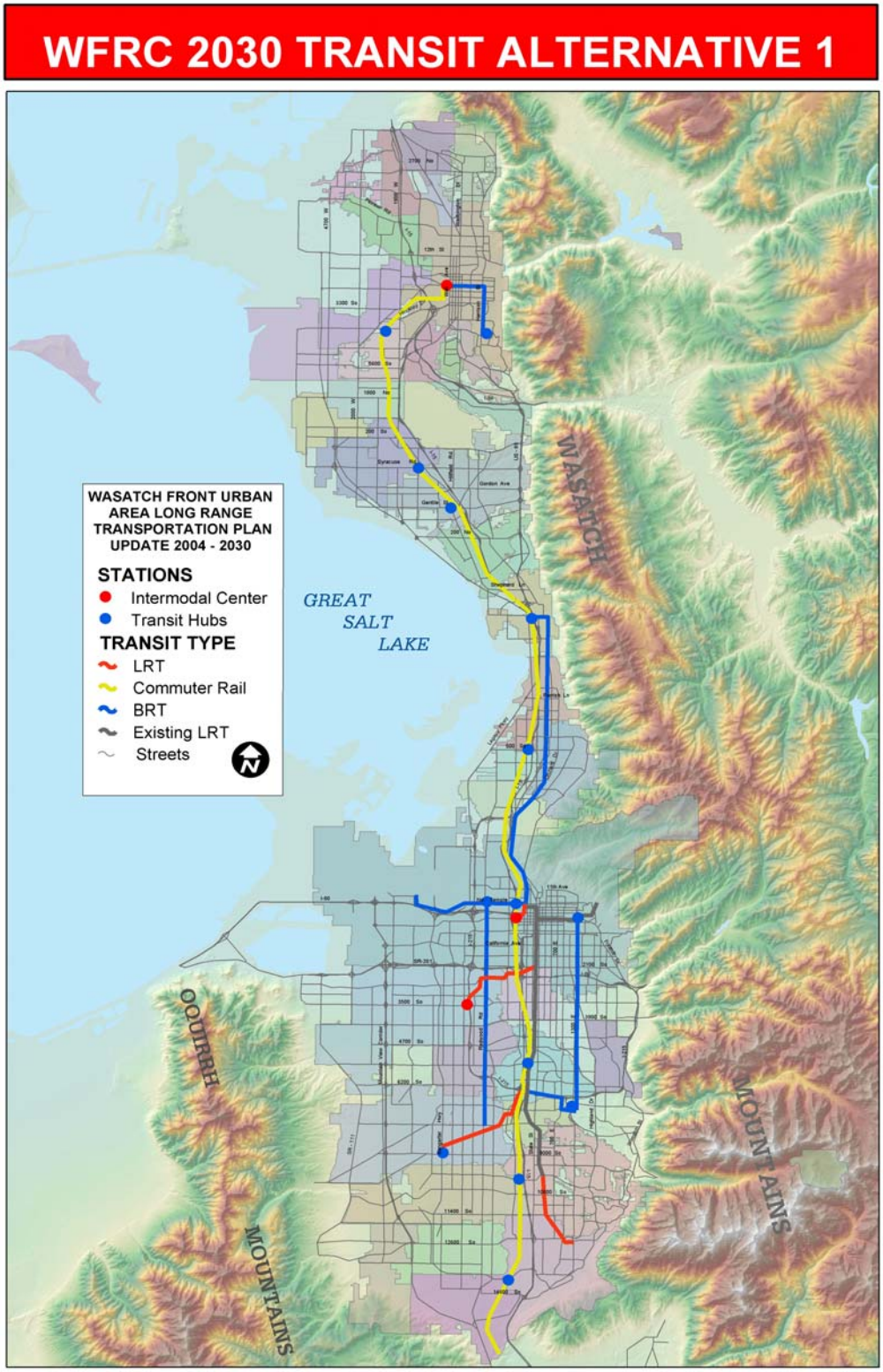
HIGHWAY AND TRANSIT PROJECTS
ALTERNATIVE 2

Highway	Transit
• I-15 - 2700 North (Pleasant View) to 12th Street (Ogden) from Phase 1 to Phase 2 • US-89 - I-84 (South Weber) to I-15 (Farmington) from Phase 3 to Illustrative • US-89 - Harrison Blvd. (South Ogden) to I-84 (South Weber) from Phase 3 to Phase 1 • I-15 - US-89 (Farmington) to 500 South (Bountiful) from Phase 2 to Phase 3 • I-15 - 500 South (Bountiful) to I-215 (North Salt Lake) from Phase 1 to Phase 3 • Mountain View Corridor - 6200 South to 7800 South from Phase 2 to Phase 1 • Mountain View Corridor - 10500 South to 11400 South from Phase 3 to Phase 2 Note: A group of highway projects that changed phasing but remained the same for each of the four alternatives is found in a separate table on Page 79.	• Ogden to Weber State University from Transitway to BRT • Airport to Downtown SLC from LRT to BRT • South Davis from Transitway to BRT Added • 1300 East BRT North Section • Redwood Road BRT North Section • Fort Union BRT Dropped • 3500 South Transitway • Sugarhouse Transitway • Foothill Blvd/I-215 Transitway • Mountain View Corridor North Transitway Note: Funding permits construction of commuter rail, one LRT, and no BRT lines prior to 2013.

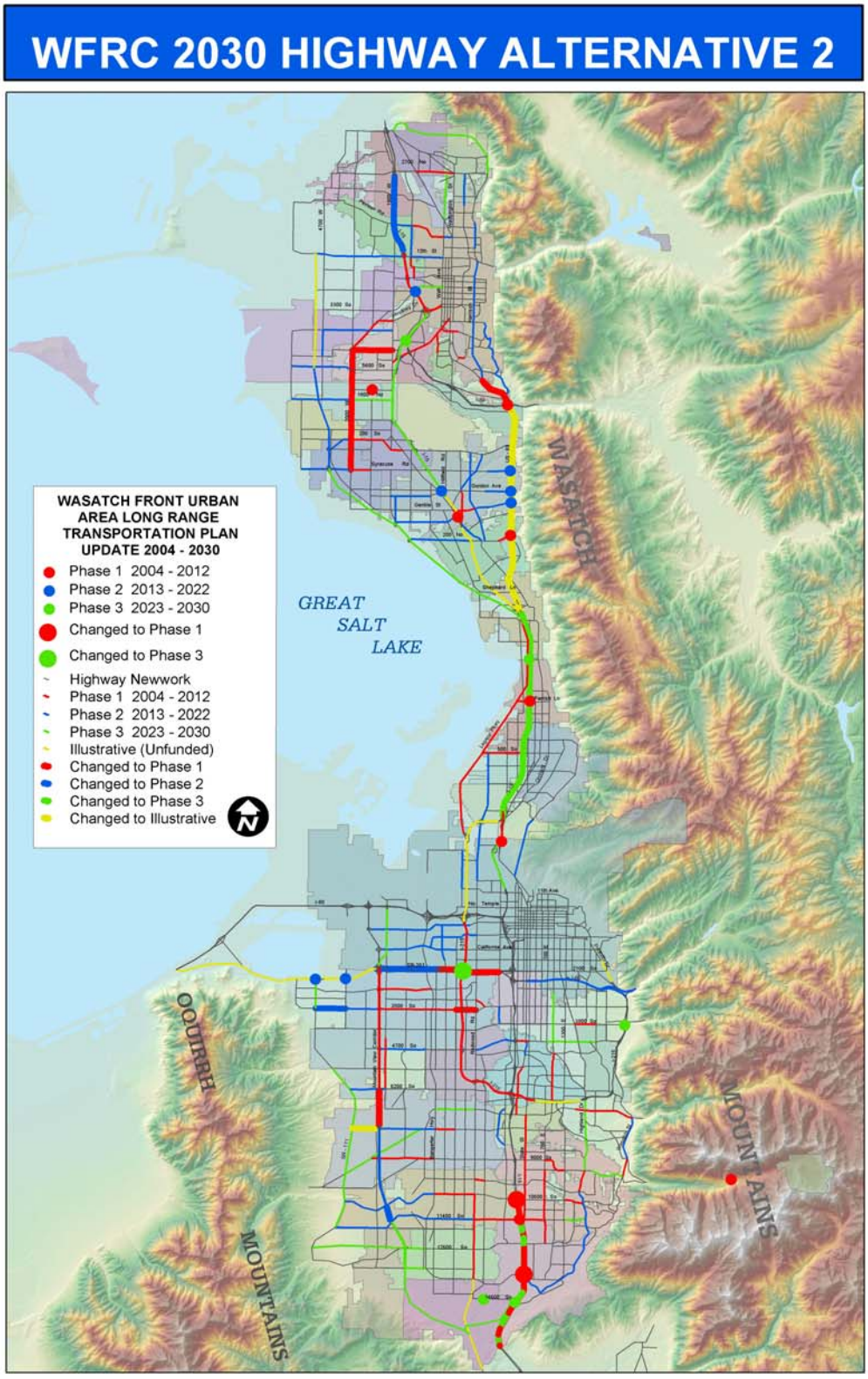
Map V-1


WFRC 2030 HIGHWAY ALTERNATIVE 1
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Changed to Phase 1
Changed to Phase 3
Highway Network
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Illustrative (Unfunded)
Changed to Phase 1
Changed to Phase 2
Changed to Phase 1
Changed to Illustrative
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

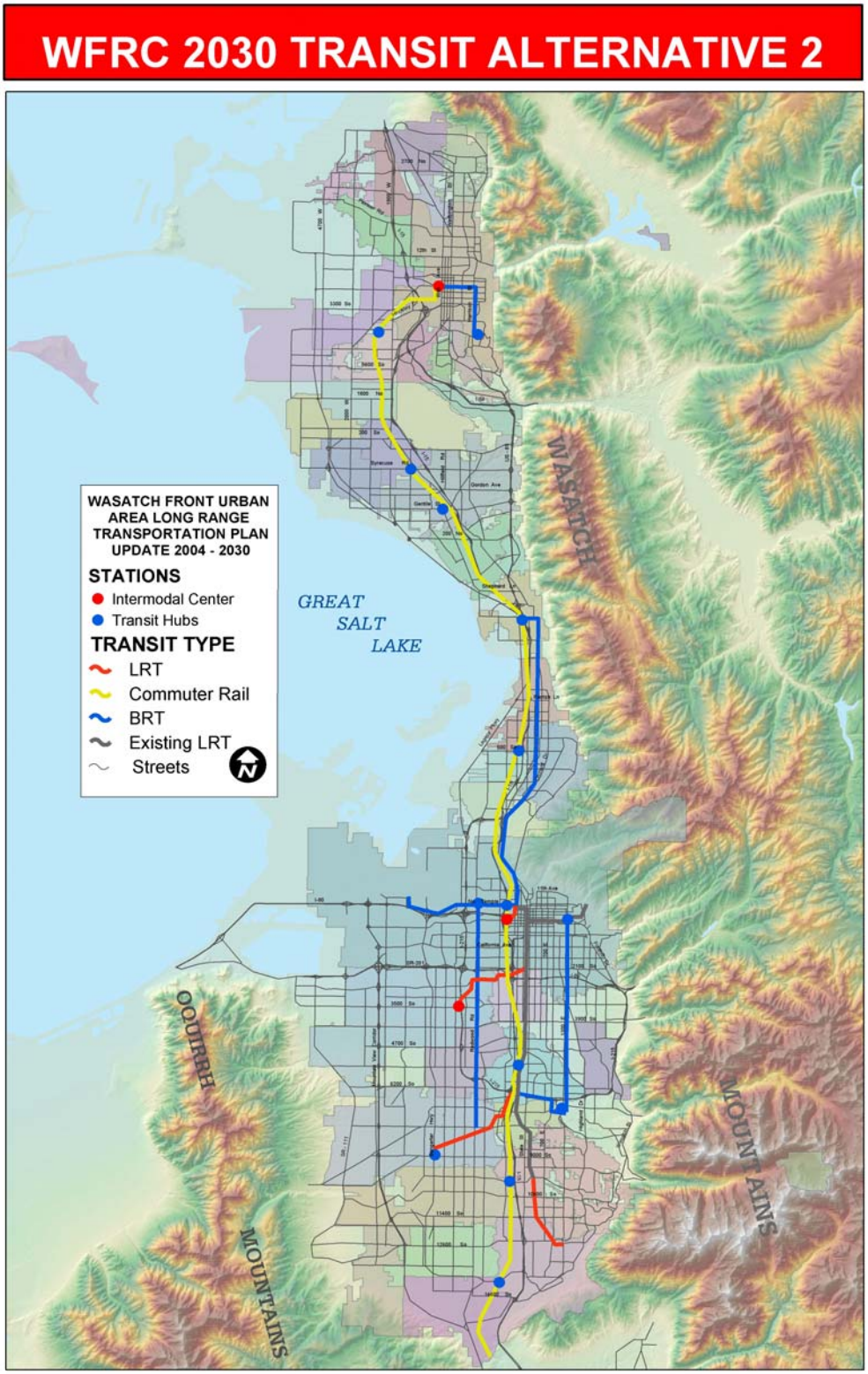
Map V-2


WFRC 2030 TRANSIT ALTERNATIVE 1
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
STATIONS
Intermodal Center
Transit Hubs
TRANSIT TYPE
LRT
Commuter Rail
BRT
Existing LRT
Streets
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

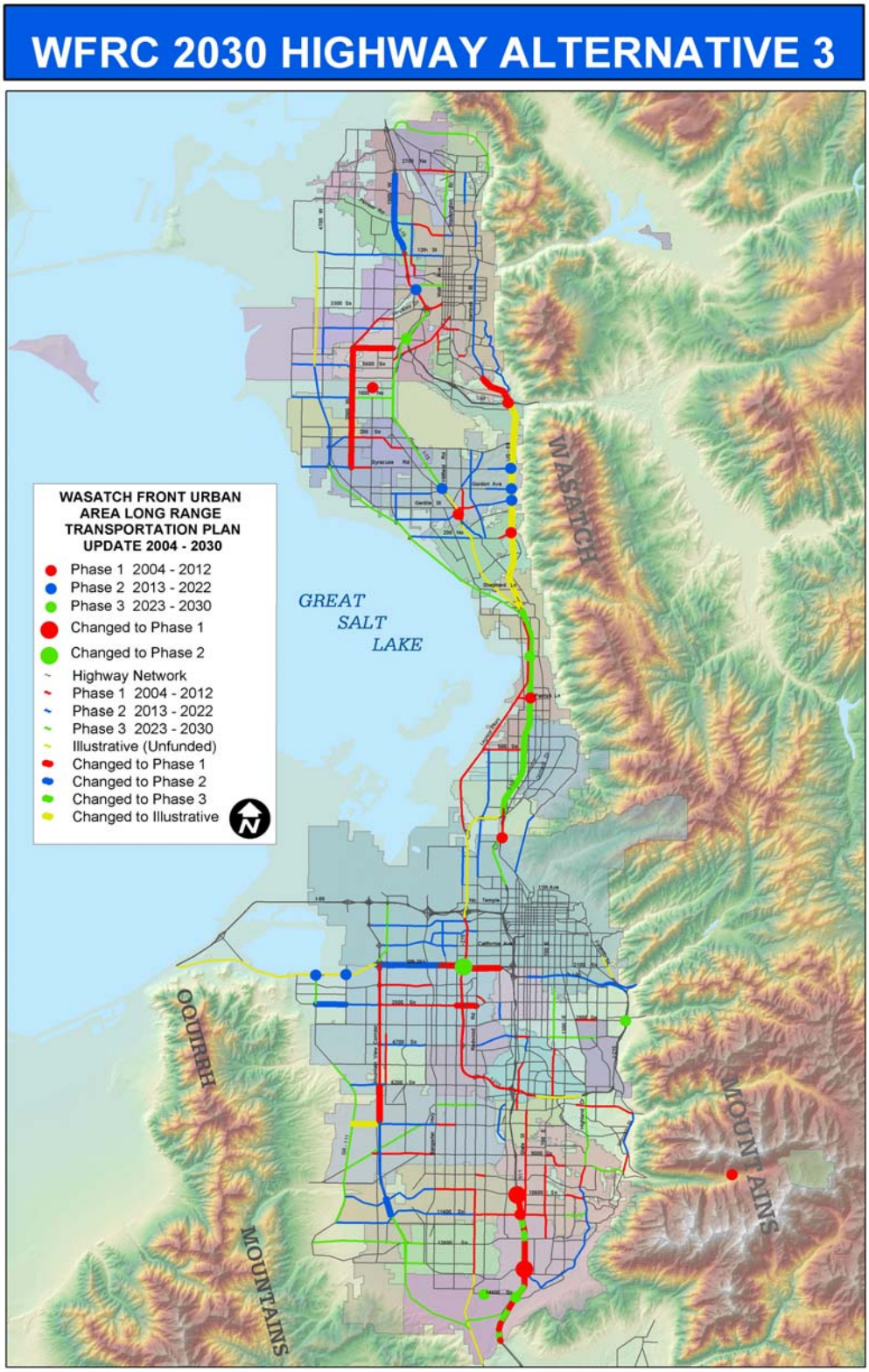
Map V-3


WFRC 2030 HIGHWAY ALTERNATIVE 2
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Changed to Phase 1
Changed to Phase 3
Highway Newwork
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Illustrative (Unfunded)
Changed to Phase 1
Changed to Phase 2
Changed to Phase 3
Changed to Illustrative
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

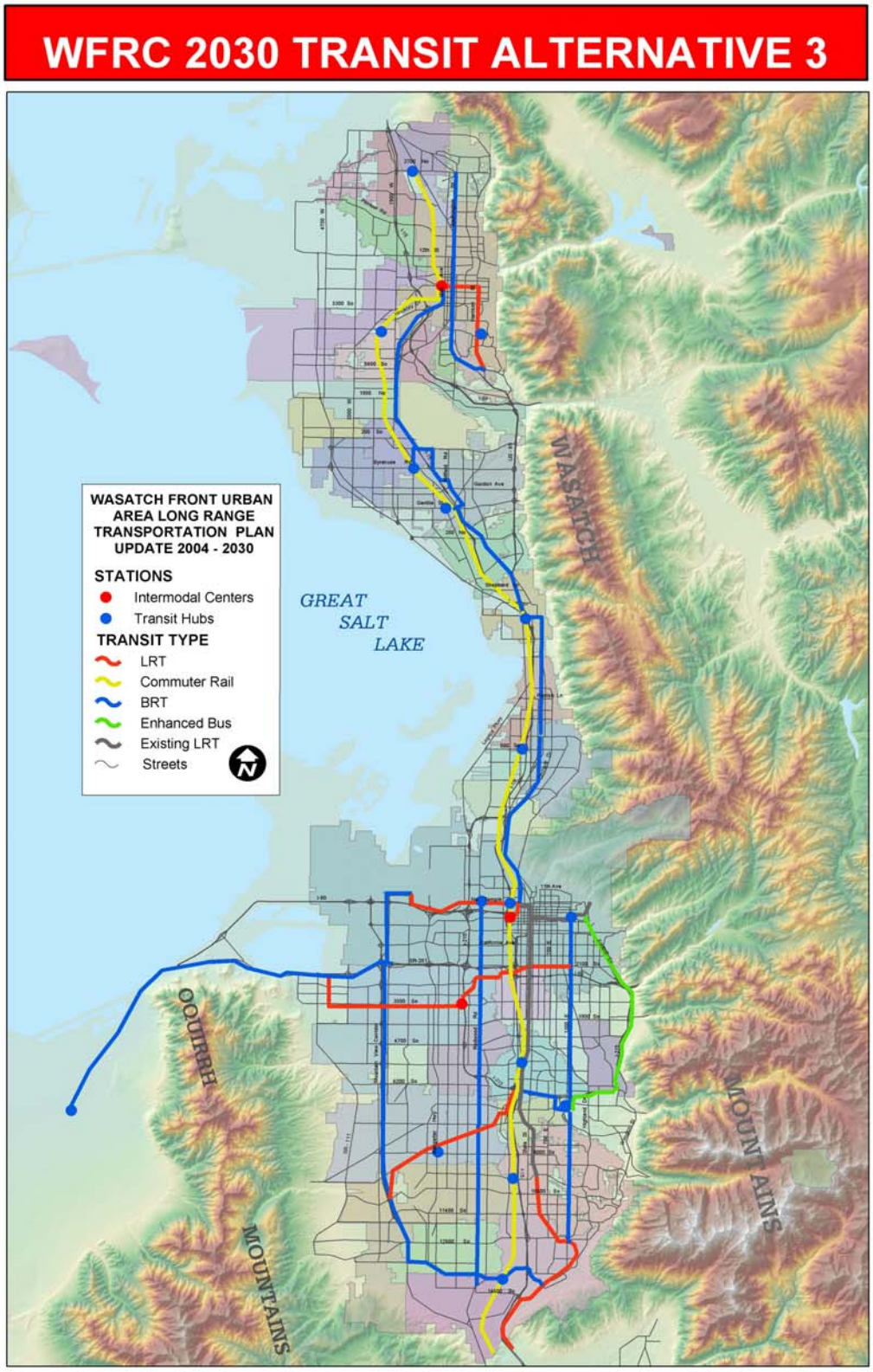
Map V-4


WFRC 2030 TRANSIT ALTERNATIVE 2
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
STATIONS
Intermodal Center
Transit Hubs
TRANSIT TYPE
LRT
Commuter Rail
BRT
Existing LRT
Streets
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

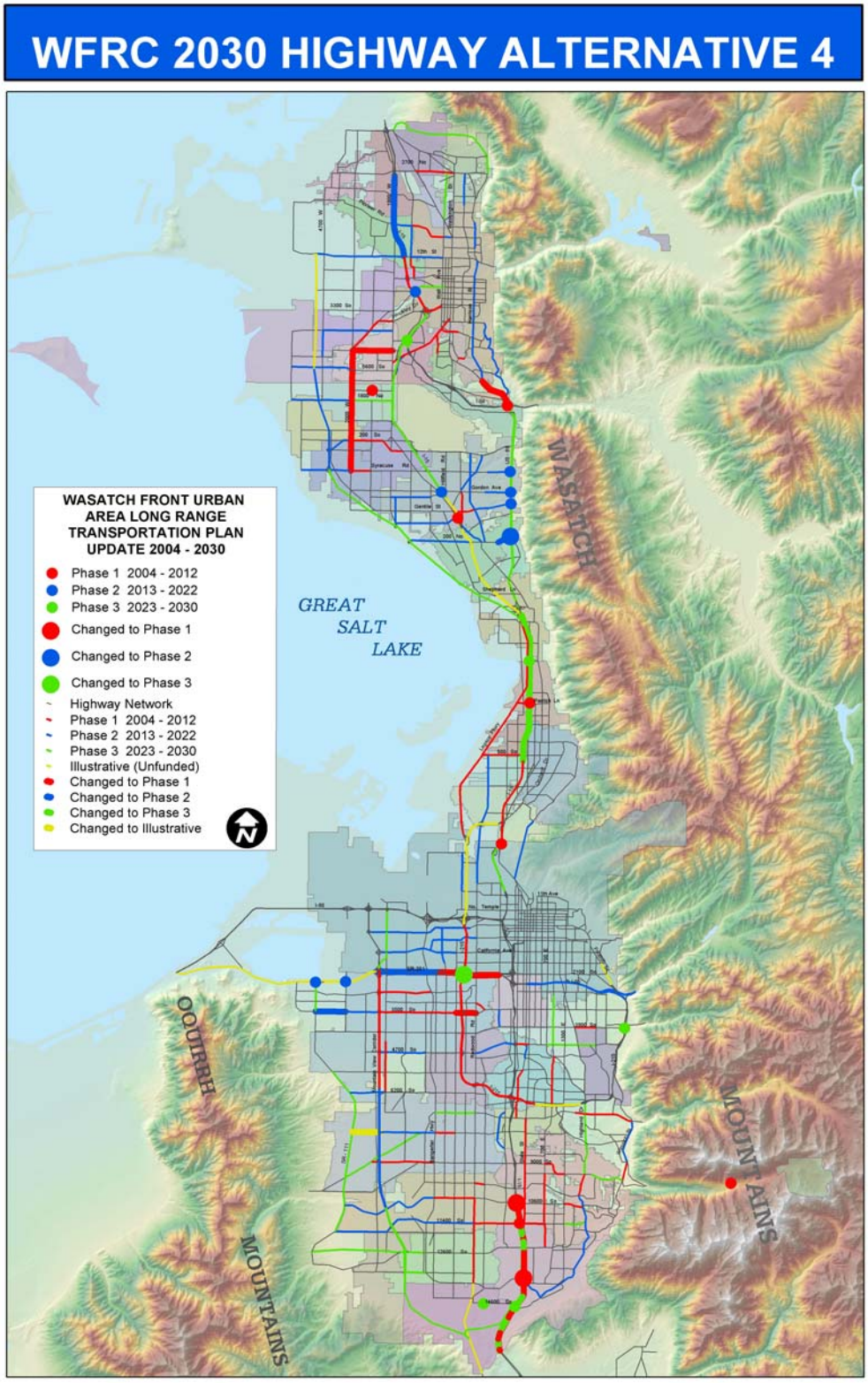
Map V-5


WFRC 2030 HIGHWAY ALTERNATIVE 3
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Changed to Phase 1
Changed to Phase 2
Highway Network
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Illustrative (Unfunded)
Changed to Phase 1
Changed to Phase 2
Changed to Phase 3
Changed to Illustrative
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

Map V-6


WFRC 2030 TRANSIT ALTERNATIVE 3
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
STATIONS
Intermodal Centers
Transit Hubs
TRANSIT TYPE
LRT
Commuter Rail
BRT
Enhanced Bus
Existing LRT
Streets
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map V-7


WFRC 2030 HIGHWAY ALTERNATIVE 4
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Changed to Phase 1
Changed to Phase 2
Changed to Phase 3
Highway Network
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Illustrative (Unfunded)
Changed to Phase 1
Changed to Phase 2
Changed to Phase 3
Changed to Illustrative
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

Map V-8

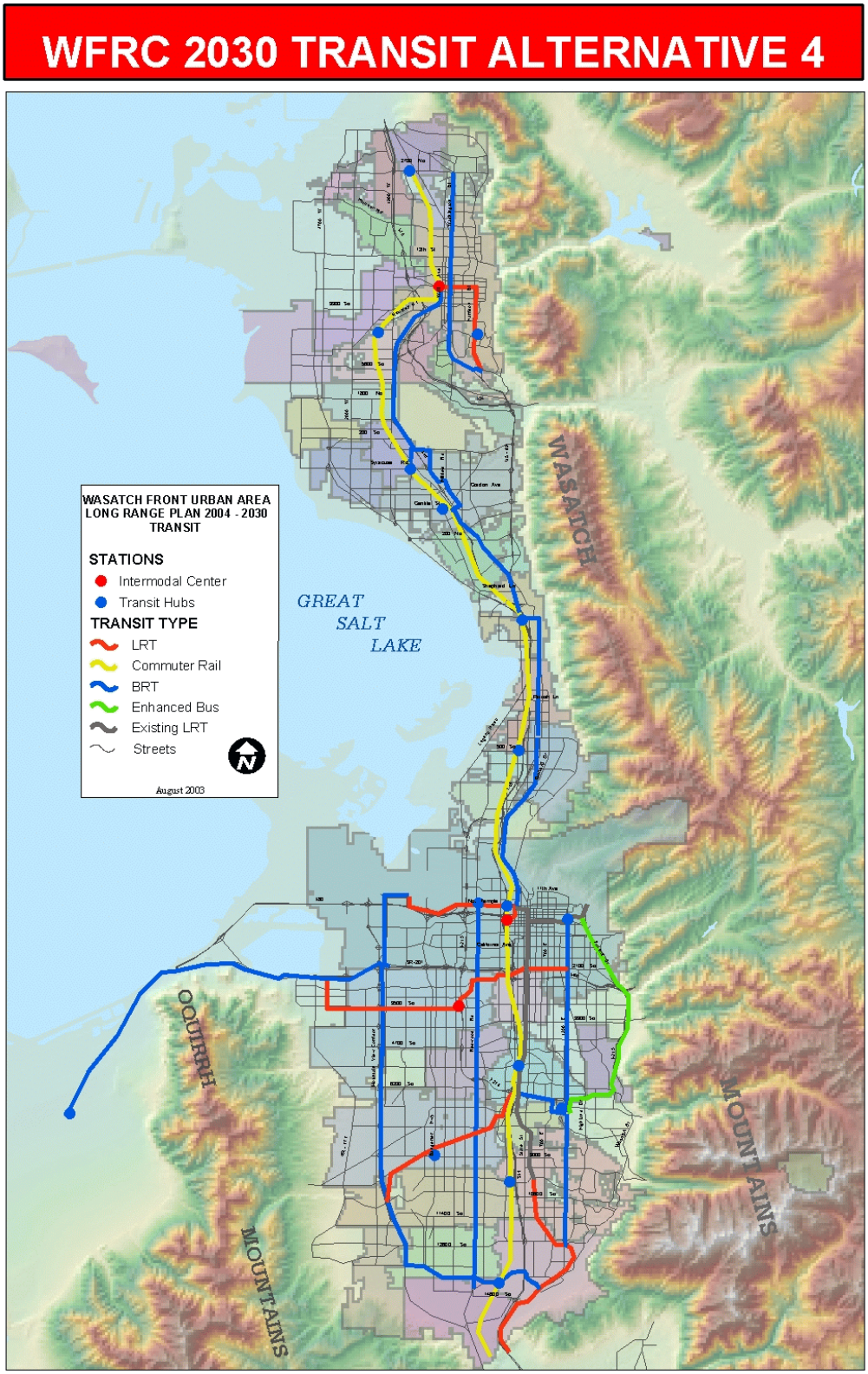

WFRC 2030 TRANSIT ALTERNATIVE 4
WASATCH FRONT URBAN AREA
LONG RANGE PLAN 2004 - 2030
TRANSIT
STATIONS
Intermodal Center
Transit Hubs
TRANSIT TYPE
LRT
Commuter Rail
BRT
Enhanced Bus
Existing LRT
Streets
August 2003
GREAT
SALT
LAKE
WASATCH
OQUIRRH
MOUNTAINS
MOUNTAINS

Table V-2 (Continued)

HIGHWAY AND TRANSIT PROJECTS
ALTERNATIVE 3

Highway	Transit
• I-15 - 2700 North (Pleasant View) to 12th Street (Ogden) from Phase 1 to Phase 2 • US-89 - I-84 (South Weber) to I-15 (Farmington) from Phase 3 to Illustrative • US-89 - Harrison Blvd. (South Ogden) to I-84 (South Weber) from Phase 3 to Phase 1 • I-15 - US-89 (Farmington) to 500 South (Bountiful) from Phase 2 to Phase 3 • I-15 - 500 South (Bountiful) to I-215 (North Salt Lake) from Phase 1 to Phase 3 • Mountain View Corridor - 6200 South to 7800 South from Phase 2 to Phase 1 • Mountain View Corridor - 10500 South to 11400 South from Phase 3 to Phase 2 Note: A group of highway projects that changed phasing but remained the same for each of the four alternatives is found in a separate table on Page 79.	• 3500 South from Transitway to LRT • Foothill Blvd/I-215 from Transitway to Enhanced Bus • Mt. View Corridor North Section from Transitway to BRT • South Davis from Transitway to BRT • Sugarhouse from Transitway to LRT Added • 1300 East BRT South Section • 1300 East BRT North Section • Daybreak LRT • Redwood Road BRT • Fort Union BRT • Traverse Ridge East LRT • Mountain View Corridor South BRT • North Davis BRT • North Weber Commuter Rail • Washington Blvd. BRT • Tooele BRT Note: Funding permits construction of commuter rail, four LRT, and four BRT lines prior to 2013. All lines identified by the Transit 2030 Committee would be built by 2030.

HIGHWAY AND TRANSIT PROJECTS
ALTERNATIVE 4

Highway	Transit
• I-15 - 2700 North (Pleasant View) to 12th Street (Ogden) from Phase 1 to Phase 2 • US-89 - Harrison Blvd. (South Ogden) to I-84 (South Weber) from Phase 3 to Phase 1 • US-89 - Interchange at 400 North (Fruit Heights) from Phase 1 to Phase 2 • 200 North - US-89 (Fruit Heights) to 700 East (Kaysville) from Phase 1 to Phase 2 • I-15 - US-89 (Farmington) to 500 South (Bountiful) from Phase 2 to Phase 3 Note: A group of highway projects that changed phasing but remained the same for each of the four alternatives is found in a separate table on Page 79.	• 3500 South from Transitway to LRT • Foothill Blvd/I-215 from Transitway to Enhanced Bus • Mt. View Corridor North from Transitway to BRT • South Davis from Transitway to BRT • Sugarhouse from Transitway to LRT Added • 1300 East BRT South Section • 1300 East BRT North Section • Daybreak LRT • Redwood Road BRT • Fort Union BRT • Traverse Ridge East LRT • Mountain View Corridor BRT South Section • North Davis BRT • North Weber Commuter Rail • Washington Blvd. BRT • Tooele BRT Note: Funding permits construction of commuter rail, six LRT, and seven BRT lines prior to 2013. All lines identified by the Transit 2030 Committee would be built by 2030.

Table V-2 (Continued)

ADDITIONAL HIGHWAY PROJECTS
FOR ALL FOUR ALTERNATIVES

Changed Highway Projects Phasing From 2002-2030 LRP
• 4800 South - 1900 West (SR-126) to 3500 West (Roy) from Phase 2 to Phase 1
• 2000 West (SR-108) - Weber County Line to Syracuse (SR-108) from Phase 2 to Phase 1
• SR-201 - Re-Phased as per the current project Environmental Assessment
• 3500 South - Extended from Redwood Road to 8400 West as per the current project Environmental Impact Statement
• Added 7800 South - Mountain View Corridor to U-111 to Illustrative
• I-15 - Portions of 10600 South to Utah County Line in Phase 3
• I-15 - 14600 South to Utah County Line from Phase 3 to Phase 1
• Added Interchange on I-15 at 10600 South (Sandy) to Phase 1
• Added Interchange on I-15 at Bangerter Highway (Draper) to Phase 1

Transportation Alternative 5

Based on comments and recommendations received in the Transit 2030 Committee and at the Stakeholders Meeting held on July 22, 2003, the WFRC staff decided to develop and test a fifth transportation alternative. This alternative was the combination of Highway Alternative 1, with the least amount of funding, with Transit Alternative 4, with the most amount of funding. This idea was put forward to see if a heavy transit option could effectively and efficiently pick-up projected travel demand within the Wasatch Region. Specifically, the regional travel demand model would be used to test 2030 travel demand using the existing highway network plus those improvements to the system listed under Highway Alternative 1. In addition, the travel demand model runs assumed a maximum build out of the transit system based on the recommended transit projects found in Transit Alternative 4. In other words, Alternative 5 tested the current 2002-2030 LRP highway system, with a re-phasing of a small number of highway projects, and general advancement in phasing of a wide range of transit projects, including commuter rail, LRT, BRT, and enhanced bus over the next 27 years.

EVALUATION OF ALTERNATIVES

All five 2030 LRP Update transportation alternatives were evaluated using a variety of different methods ranging from the regional travel demand model to quantitative techniques. Key indicators included hours of daily PM peak period delay, average PM peak period highway speeds, and transit ridership. Additional indicators, such as the number of environmental impacts, accident rates and severity, and a demand needs assessment were performed for the highway projects. The evaluation of alternative transit projects included estimated PM peak trip ends accessible to a major transit investment, number of transit projects serving environmental justice populations, and the total number of bus and rail service miles. Air quality improvements for each of the five alternatives were measured in the reduction in tons of pollutants per day that would be realized. A summary of the results of travel demand modeling and evaluation of all five 2004-2030 LRP Update transportation alternatives is shown in Table V-3. A detailed spread sheet listing each highway and transit project, the evaluation category results, and each project's rating can be found in Appendix C.

Table V-3

2030 LRP UPDATE
TRANSPORTATION ALTERNATIVE COMPARISON

Evaluation Category	Base 2001	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Population	1,367,800	2,139,300	2,139,300	2,139,300	2,139,300	2,139,300
Vehicle Miles Traveled (Average Weekday)	30,802,300	54,791,800	55,593,500	55,455,000	55,469,600	54,250,000
Vehicle Hours of Total PM Peak Period Delay (Average Weekday)	42,311	189,816	163,949	158,059	151,824	162,691
Average PM Peak Period Highway Speeds (MPH)	32.95	25.97	27.55	27.86	28.22	27.21
Transit Ridership (Average Weekday Linked Trips)	67,754	151,014	150,571	172,424	172,525	173,884
Transit Percentage of Home Based Work Trips (Average Weekday)	3.53	4.75	4.73	5.56	5.57	5.64
Peak Bus Transit Service Miles *	21,398	39,079	39,079	53,261	53,261	53,261
Daily Total Bus Service Miles *	43,170	75,096	75,096	100,048	100,048	100,048
Peak Rail Transit Service Miles *	730	5,916	5,916	6,221	6,221	6,221
Daily Total Rail Service Miles *	1,897	10,981	10,981	13,060	13,060	13,060
Number of Environmental Impacts (Highway Only) +	Not Available	644	681	681	697	644
Accident Rates and Severity (Highway Only) ~	Not Available	226	239	239	243	226
Needs Assessment (Highway Only) ^	Not Available	97	106	106	109	97
Miles of Highway Projects Serving Environmental Justice Populations ++	Not Available	403	403	403	403	403
Number of Fixed Guideway Projects Serving Environmental Justice Populations ++	Not Available	29	29	48	48	48
Air Quality - Reduced Emissions in Tons Per Day	Not Available	355	344	347	346	363

NOTE: Alternative 5 is the combination of Highway Alternative Number 1and Transit Alternative Number 4.

* Includes Utah County

\+ The total number of environmental impacts from the 2030 LRP comparison study - includes preliminary evaluation of hazardous waste and superfund sites, geographic fault lines, surface water, school proximity, railroad crossings, parks and recreational lands, wetlands, and irrigated farmlands. Does not include projects in the illustrative phase.

~ Ranking totals from the 2030 LRP Update corridor comparison study. Does not included projects in the illustrative phase.

^ The total number of needs addressed by each highway project as identified in the 2030 LRP, such as improved access to major traffic generators, increased east-west travel, etc..

++ Environmental Justice population are defined as follows: populations defined as non-white in the 2000 US Census, populations below the poverty line, persons with sensory or physical disability, populations over age 65, and households with no cars available.

Travel Demand Modeling

Regional travel demand models were used to evaluate each of the five 2004-2030 Long Range Transportation Plan Update alternatives. The transportation model used by the Wasatch Front Regional Council estimates and projects travel for Weber, Davis, Salt Lake, and Utah Counties. Socioeconomic data, such as population, dwelling units, and employment, were forecast at the Traffic Analysis Zone (TAZ) level. An auto ownership model calculated vehicles per household from the input data. Trip productions for each TAZ were estimated with a cross classification model based on household size and auto ownership. Trip attractions by TAZ were calculated using regression equations and zonal socioeconomic data. These trip generation models principally address seven trip purposes that were later condensed to Home-Based Other (HBO), Non-Home-Based (NHB), and Home-Based Work (HBW). Trips with an origin or destination outside Weber, Davis, Salt Lake, and Utah Counties were calculated using 1993 home interview survey data and growth factors. Non-motorized trips were also estimated for the entire Wasatch Front Urban Area.

A gravity model determined trip interchanges between zones for all but trips going from one external area to another. The modeling results provided the number of trips between each pair of origin-destination zones. Trip matrices were developed for four time periods: (1) AM Peak; (2) Midday; (3) PM Peak; and (4) Evening. Travel mode choice and traffic assignment modeling were also part of the travel demand analysis performed for each of the five transportation alternatives. Nested logit models predict which mode each trip interchange will use and have been calibrated with a 2002 transit on-board survey.

Highway and transit modeling networks have been developed to represent the Wasatch Front Urban Area road and transit networks. Key parameters of highway networks are travel time and capacity, while travel time and its components (access time, waiting time, etc.) are the key for transit networks. "Centroid connectors" permit loading of traffic from each of the 1000 plus TAZs onto the networks. An equilibrium assignment technique is used to assign trips by time of day onto the highway network. The details of the travel demand models are available in the Wasatch Front Regional Council's Travel Demand Models Documentation Version 3.1.

Travel Demand Results

The five alternatives demonstrated differences in several important travel demand categories. Many of the numbers produced by the modeling runs for each alternative show relatively small changes, such as the number of vehicle miles traveled, vehicle hours of PM peak period delay, and average PM peak period highway speeds. These comparatively small changes in the numbers produced by the model can be explained by the relatively minor variations in the five alternatives, often only a matter of different phasing for a handful of important projects. The increase in funding found in several of the transportation alternatives allows for many of the same highway and transit projects to be accelerated in their phasing.

With a 56 percent increase in base year population over the next 27 years, the number of vehicle miles traveled on an average weekday increased as much as 81 percent. Alternative 2 experienced the greatest increase in the number of vehicle miles traveled, approximately 55,593,500 miles. With few additional transit opportunities provided in Alternative 2, beyond those found in the 2002-2030 LRP, travel demand is shifted to regional highways. Alternative 5, which combined the lowest highway investment with the highest transit investment, has the least amount of increase in the number of vehicle miles traveled, or

54,250,000 miles. However, even this relatively low number of vehicle miles traveled represents a 76 percent increase over VMT for the base year 2001.

At approximately 189,816 hours, the number of vehicle hours of PM peak period delay was highest for Alternative 1. At the lowest end of the funding spectrum, this alternative provided only modest improvements to the highway system and added only six bus rapid transit lines to the existing transit system. As expected, Alternative 4 with the greatest funding investment in both highway and transit improvements, produced the least amount of peak period delay, approximately 20 percent reduction from Alternative 1's total vehicle hours of PM peak period delay.

The travel demand model also compared average PM peak period highway speeds. The base 2001 year speed is approximately 33 miles per hour. With growing congestion throughout the Wasatch Front Region, average peak hour highway speeds could drop as low as 26 miles per hour as in Alternative 1. Alternative 4, with a comparatively large investment in highway improvements, increases the average PM peak period highway speeds to approximately 28 miles per hour.

The next several travel demand model outputs deal with transit service. The transit percentage of home based work trips, or percentage of people that use transit to commute to work, increases for all five alternatives when compared to the base year of 2001. Alternative 5, which greatly accelerates planned transit improvements, enjoyed the greatest number of commuters, or an average of 5.64 percent of the total number of people who commute to work each day. Alternatives 1and 2, with the least amount of funding available for transit, resulted in the fewest number people commuting to work in transit.

The final four model outputs for transit, peak bus transit service miles, daily total bus service miles, peak rail transit service miles, and peak rail transit service miles also include data from Utah County. As expected, the number of service miles for all four categories remains low for the first two alternatives and relatively high for Alternatives 3, 4, and 5. Daily total bus service, at approximately 100,000 miles, is nearly eight times that of daily total rail service, or approximately 13,000 miles.

Environmental Analysis

A simple, quantitative evaluation of the impacts of highway facilities on both the man made and natural environment was performed for all five 2030 LRP Update alternatives. A total of 68 regionally significant highway facilities, or segments of these facilities, from a total of 220 projects listed in the 2002-2030 LRP were identified for evaluation. The environmental categories examined for each highway project listed under the five highway alternatives included floodplains, water bodies, streams, irrigated cropland, parks, recreational land, and air quality. The number of geologic fault crossings, railroad track crossings, proximity of schools, and hazardous waste sites and superfund sites were also evaluated for each highway project.

The environmental analysis for each highway project was performed using a variety of data sources. The WFRC, using aerial photography, local master plans, State Geographic Information Data Base (SGID) maps obtained from Utah State's Automated Geographic Reference Center (AGRC), and other data sources, performed the task of determining the number of environmental impacts for each highway project or segment found in each of the 2030 LRP Update alternatives. A summary for each category has been compiled and presented in Table V-4.

Table V-4

2030 LRP UPDATE ALTERNATIVES
ENVIRONMENTAL IMPACT SUMMARY

Evaluation Category	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Floodplains, Water Bodies, and Streams (Number of Crossings)	65	68	68	69	65
Irrigated Cropland (Linear Distance)	62,690 meters	67,790 meters	67,790 meters	73,890 meters	62,690 meters
Geologic Fault Lines (Number of Crossings)	20	22	22	22	20
Wetlands (Linear Distance)	24,780 meters	25,230 meters	25,230 meters	25,680 meters	24,780 meters
Hazardous Waste And Superfund Sites (Number of Site Within ½ Mile Radius)	94	100	100	104	94
Parks And Recreational Lands (Number of Parks Crossed or Adjacent to Projects and Linear Distance)	53 103,200 feet	56 108,500 feet	56 108,500 feet	58 113,100 feet	53 103,200 feet
School Safety (Number of Schools Within 1 mile of Projects)	297	324	324	327	297
Railroads (Number of Crossings)	46	46	46	46	46

The result of the environmental evaluation on the 2004-2030 LRP Update transportation alternatives shows relatively minor changes among the five alternatives. The number of environmental impacts for each of the alternatives is a function of the number the highway projects listed under each. In other words, the greater the number of projects, the greater the number of environmental impacts. Still, the relative difference among the five alternatives since the alternatives differed only slightly from one another in the number and type of highway projects.

As expected, the results for Highway Alternatives 2 and 3 are exactly the same since the highway projects listed under both alternative are the same. However, the transit element for these two alternatives varied, with both containing a list of different transit projects. In a similar fashion, the evaluation results for Highway Alternative 5 and Highway Alternative 1 are the same since both use an identical project list. Again, only the transit component differed between these two alternatives. Many of these environmental impacts can be mitigated through a variety of strategies and techniques, such as noise walls, safety barriers, realignment of projects through sensitive areas, landscaping, and traffic management techniques.

Highway Safety

Highway safety examined both the current accident rate and accident severity by individual project. A UDOT data base for the year 2001 was utilized to evaluate to what extent each alternative addressed traffic accidents and the need for safety improvements. The data were grouped into statistical quartiles and the quartile totals were added together for each alternative resulting in a comparative number. The resulting number represents both the number of accidents and their severity for existing highways that are recommended to be improved in the 2030 LRP alternatives. The number of accidents and their severity is closely correlated to the functional classification of the roadway, its speeds, and traffic volume. Highway Alternative 4 will provide the most improvement with regards to highway safety.

Needs Assessment

The needs assessment for the five alternatives was based on those identified in the 2002-2030 LRP, and included transportation improvements to east-west travel in southwest Weber County, northwest Davis County and southwest Salt Lake County, to north-south travel between all three counties, for better access to the interstate freeway system, and to complete the regional planned arterial network. Each highway project, or segment, was awarded a single point for each need category, thus the higher the point total, the greater the need. The projects listed under Alternative 4 met the most transportation needs.

Environmental Justice Populations

The project list for each of the five transportation alternatives was overlaid on the Environmental Justice Target Population Areas map. Target population areas contain a higher than average concentration of non-white persons as defined by the 2000 U.S. Census, individuals below the poverty line, persons with sensory or physical disabilities, people over the age of 65 years, and households with no cars available. The number of miles of highway projects that intersected or were completely contained in areas of moderate or high concentrations of environmental justice populations was tabulated. The number of fixed guideway transit projects was also tabulated using the same methodology. Bus transit service enhancements were not included in the transit evaluation of the environmental justice population impacts. All five transportation alternatives had the same number of highway and transit projects impacting environmental justice populations.

Air Quality

The air quality impacts of five alternatives for the 2030 LRP Update were made by comparing 2030 emission estimates to 2001 emissions. Estimates of tailpipe and evaporative emissions of CO, VOC, and NOx as well as fugitive road dust were made for each alternative. Each LRP alternative was modeled using the WFRC travel model. Mobile 6.2 input files of Vehicle Miles Traveled (VMT) profiles for speed, facility, and hour of the day were prepared from the travel model data for each alternative. The resulting emission rates were then combined with the corresponding VMT estimates for each alternative to obtain total emission estimates. In each case the total 2030 emissions are lower than existing 2001 emissions. The overall reduction in future emissions is due primarily to improved vehicle emission technology and vehicle emission testing. The estimated emission reductions from the five 2030 LRP Update alternatives range from 344 to 363 tons per day, or a 5 percent range for all five alternatives.

2030 LRP UPDATE RECOMMENDATIONS

Following the development, analysis, modeling, and evaluation of the five transportation alternatives, the WFRC produced a series of graphs, charts, and maps that compared the five alternatives and presented the results to various public groups and officials. These groups included the Salt Lake Area Transportation Technical Advisory Committee, the Ogden/Layton Area Transportation Technical Advisory Committee, the Salt Lake, Davis, and Weber County Councils of Governments, the 2030 LRP Update Stakeholders Group, engineers and planners at UDOT and UTA, the 2030 Transit Committee, and individual city mayors, county commissioners, community planners, and city engineers. The five transportation alternatives were presented to the general public in a series of open houses held during July and August, 2003, in Salt Lake, Davis, and Weber Counties. The comments provided by each group that reviewed the 2030 LRP Update alternatives, along with those received from the general public, were compiled and used in selecting which alternative, or which particular combination of highway and transit projects would best serve the needs of growing travel demand throughout the Wasatch Front Region.

On August 21st, 2003, Trans Com recommended to the Regional Council that the financial assumptions of Highway Alternative 4, which included regular gas tax increases and annual statewide general fund support raised to $100 million beginning in 2008, along with the Transit 2030 Committee's recommendation of the equivalent of ½ cent sales tax increase beginning in 2006 be approved. On August 28th, 2003, the Regional Council voted to accept Trans Com's recommendation. Acknowledging this direction, the WFRC staff combined the Highway Alternative 4 financial assumptions and the Transit 2030 Committee recommendations to form the basis of the draft 2004-2030 Long Range Transportation Plan Update.

A total of 22 highway projects, some of which included multiple segments, were rephased from their original recommended phasing in the 2002-2030 Long Range Transportation Plan. Several highway projects, or segments of projects, were advanced in phasing. These projects would include the I-15 interchange at 24th Street in Ogden, US-89 from Harrison Blvd in South Ogden to I-84 in South Weber, and the Legacy Parkway from Gentile Street in Layton to I-15 and US-89 in Farmington. The majority of the selected 22 highway projects were moved back at least one phase, since general fund money for planned improvements would not be available until 2008. These project include I-15 from US-89 in Farmington to 500 South in Bountiful, I-15 from 500 South in Bountiful to I-215 in North Salt Lake, and I-15 from 2700 North in Pleasant View to 450 North in Marriott Slaterville. The 2040-2030 LRP Update's recommended changes in highway project phasing from the 2002-2030 LRP are shown in Table V-5.

The 28 fixed guideway transit projects, along with their recommended phasing for the next 27 years, were developed and form the basis of the 2004-2030 LRP Update's transit element. These fixed guideway projects - 13 bus rapid transit lines, 10 light rail lines, 3 commuter rail segments, and 2 enhanced bus lines - form a complete transit network for the entire Wasatch Front Region. All of the previous identified transitways in the 2002-2030 LRP have been assigned a transit technology. A high frequency bus gridwork supplements and directly feeds into the fixed guideway system. In addition to the above transit improvements, the number of bus route miles is planned to increased by 100 percent over next 27 years. Funding projections allow for many of these projects to be accelerated in phasing, with most being built over the next 20 years. Table V-6 lists the fixed guideway transit projects that have been added or rephased as part of the 2002-2030 Long Range Transportation Plan.

The combined changes to the 2002-2030 LRP's highway phasing and the recommended additions and changes to the 2002-2030 LRP's transit plan formed the foundation of the draft Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The highway and transit recommendations of the 2004-2030 LRP Update are covered in more detail in Chapter VI - Long Range Plan Recommendations.

Table V-5

RECOMMENDED HIGHWAY PROJECTS
CHANGES IN PHASING FROM THE 2002-2030 LRP

PROJECT NUMBER	HIGHWAY PROJECT DESCRIPTIONS	CHANGES IN PHASING FROM THE 2030 LRP
208	I-15 - From 2700 North (Pleasant View) to 400 North (Marriott Slaterville)	From Phase 1 to Phase 3
230	I-15 - From 400 North (Marriott Slaterville) to 12th Street (Marriott Slaterville)	From Phase 1 to Phase 2
179	I-15 Interchange at 24th Street (Ogden)	From Phase 2 to Phase 1
229	I-15 Interchange at Riverdale Road (Riverdale)	Upgrade - Phase 1
178	1200 South (Weber County) - From I-15 to Legacy Parkway	From Phase 2 to Phase 3
226	US-89 - From Harrison Blvd. (South Ogden) to I-84 (South Weber)	From Phase 3 to Phase 1
187	4800 South - From 1900 West (SR-126) to 3500 West (Roy)	From Phase 2 to Phase 1
155	2000 West (SR-108) - From Weber County Line to Syracuse Road (SR-108)	From Phase 2 to Phase 1
150	Main Street - From I-15 (Layton) to 200 North (Kaysville)	From Phase 2 to Phase 1
227 / 228	Legacy Parkway - From Gentile Street (Layton) to I-15/US-89 (Farmington)	From Phase 3 to Phases 1 and 2
86	I-15 - From US-89 (Farmington) to 500 South (Bountiful)	From Phase 2 to Phase 3
87	I-15 - From 500 South (Bountiful) to I-215 (North Salt Lake)	From Phase 1 to Phase 2
88	I-15 - From I-215 to Beck Street	From Phase 1 to Phase 3
8 / 9 / 10	SR-201 - Rephased as per the current project Environmental Assessment	Phase 1 and Phase 2
14 / 16	3500 South - Extended from Redwood Road to 8400 West as per current Environmental Impact Statement	Phase 1 and Phase 2
24	7000 South - From Redwood Road to Bangerter Highway	From Phase 3 to Phase 2
27	7800 South - From Bangerter Highway to Mountain View Corridor	From Phase 2 to Phase 1
222	7800 South - From Mountain View Corridor to U-111	From Illustrative to Phase 2
101	Redwood Road - Bangerter Highway to Utah County Line	From Illustrative to Phase 1
51 / 52 / 221	I-15 - From 10600 South to Utah County Line	From Phases 1 and 3 to Phases 1 and 2
82 / 231	Mountain View Corridor - From 10500 South to 13400 South	From Phase 3 to Phase 2 and 3
83	Mountain View Corridor - Extended from 13400 South to Utah County Line	Phase 3

Table V-6

RECOMMENDED TRANSIT PROJECTS
ADDITIONS OR CHANGES IN PHASING FROM THE 2002-2030 LRP

TECHNOLOGY	TRANSIT PROJECT DESCRIPTIONS	ADDITIONS OR PHASING CHANGES
Bus Rapid Transit	1300 East (North of Fort Union Blvd.)	Added - Phase 1
Bus Rapid Transit	Ogden / Weber State University	Phase 1
Bus Rapid Transit	Redwood Road (North of Mid-Jordan LRT Line)	Added - Phase 1
Bus Rapid Transit	South Davis (South of Parrish Lane)	Phase 1
Bus Rapid Transit	Washington Blvd.	Added - Phase 1
Bus Rapid Transit	1300 East (South of Fort Union Blvd.)	Added - Phase 2
Bus Rapid Transit	Fort Union	Added - Phase 2
Bus Rapid Transit	Mountain View Corridor	Added - Phase 2
Bus Rapid Transit	North Davis County / Kaysville	Added - Phase 2
Bus Rapid Transit	North Davis County / Ogden	Added - Phase 2
Bus Rapid Transit	Redwood Road (South of Mid-Jordan LRT Line)	Added - Phase 2
Bus Rapid Transit	North Davis County (North of Parrish Lane)	Added - Phase 2
Bus Rapid Transit	Tooele County	Added - Phase 2
Light Rail Transit	Airport	Phase 1
Light Rail Transit	Daybreak	Added - Phase 1
Light Rail Transit	Draper (South to 12400 South)	Phase 1
Light Rail Transit	Mid-Jordan	Phase 1
Light Rail Transit	Sugarhouse	Phase 1
Light Rail Transit	West Valley	Phase 1
Light Rail Transit	Salt Lake Intermodal Connector	Phase 1
Light Rail Transit	Traverse East (North of 14600 South)	Added - Phase 2
Light Rail Transit	West Valley Extension (approximately 3500 South)	Phase 2
Light Rail Transit	Traverse East (South of 14600 South to Utah County Line)	Added - Phase 3
Enhanced Bus	Foothill Drive	Phase 1
Enhanced Bus	I-215 East Belt Loop	Phase 2
Commuter Rail	North Weber County	Added - Phase 1
Commuter Rail	Salt Lake City / Ogden City	Phase 1
Commuter Rail	Salt Lake County / Utah County	Phase 1
Bus Service	Number of route miles increased by 100% over next 27 years	Phase 1 through Phase 3

VI. LONG RANGE PLAN RECOMMENDATIONS

The purpose of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 is to address the transportation needs for the Wasatch Front Region. The 2030 LRP Update planning process evaluated long range capacity needs and developed a list of recommended highway, transit, and other improvements through the year 2030. The planning process considered the Wasatch Front's travel demand, examined various transportation alternatives, determined transportation improvements, and provided proper construction phasing. The 2030 LRP Update relied on extensive public review and input. The 2030 LRP Update recommended projects that can be implemented using estimated funding levels between 2004 and 2030. The 2030 LRP Update also makes general policy recommendations for intelligent transportation systems, bicycle routes, pedestrian amenities, multi-purpose trails, systems management, transportation enhancements, regional freight movement, and pavement preservation.

OVERVIEW OF RECOMMENDATIONS

The WFRC developed and refined four general transportation alternatives that formed the basis for recommendations found in this chapter of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. These alternatives examined needed improvements to the Wasatch Front Region's highways, arterial streets and transit network based on differing funding amounts available over the next 27 years. WFRC planners and engineers developed a list of needed highway and transit projects based on funding level provided by Highway Alternative 4 and the transit alternative developed by the Transit 2030 Committee. Each highway project selected to represent Alternative 4 was already part of the adopted 2002-2030 LRP. The recommended rephasing of 22 highway projects allowed the 2030 LRP Update to remain financially constrained. This highway rephasing, along with 28 fixed guideway transit projects recommended by the Transit 2030 Committee, formed the basis of the 2030 LRP Update.

Highway Recommendations

Recommended highway improvements in the 2004-2030 LRP Update include a balance of freeway, highway, arterial street, and collector road projects. The projects add needed capacity through the construction of new facilities or the widening of existing roads. Two new freeways, the Legacy Parkway and the Mountain View Corridor, totaling approximately 55 miles, are recommended to serve the growing travel demand in and between the western portions of Salt Lake, Davis, and Weber Counties. Approximately 73 miles of additional capacity improvements on existing freeways, such as I-15, the 2100 South Freeway and I-80, are also recommended.

The 2030 LRP Update includes new or widened arterial streets and freeway improvements to serve the existing and developing areas of the Wasatch Front Region. Selected Salt Lake County east-west major facilities include new construction or improvements to SR 201 (2100 South Freeway), 3100 South, 3500 South, 3900 South, 4500 South, 10400 South, 11400 South, and 12600 South. North-South corridors in Salt Lake County include improvement to I-15, 900 East, 2000 East, 700 West, the Mountain View Corridor (5600 West), SR-111 (8400 West), Bingham Junction Boulevard, and Porter Rockwell Road. Highway improvements in Davis County include 1800 North (Clinton), 200 South (Clearfield), 700 South (Clearfield), 2700 West (Layton), I-15, and the Legacy Parkway. Weber County freeway, highway, and arterial street improvements include Pioneer Road, 2nd Street, 12th Street, 2700 North, Wall Avenue, and the widening of sections of I-15.

Transit Recommendations

A variety of transit system improvements were recommended by the Transit 2030 Committee to be part of the Wasatch Front Urban Area Long Transportation Plan Update: 2004-2030. These recommended improvements to the Wasatch Front Region's transit system can be summarized in four general areas: (1) the implementation of a regional commuter rail system linking Weber County and Utah County; (2) the expansion of the existing light rail transit system, including the construction of new light rail transit lines to regions of high ridership demand; (3) the utilization of bus rapid transit and enhanced bus technologies to support the existing and planned light rail transit network, and; (4) the addition of more high-frequency bus corridors and extended bus transit coverage.

Major transit improvements recommended by the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 include ten extensions of UTA's current TRAX light rail system to serve the growing transportation needs of the Wasatch Front Region. New bus rapid transit lines would be implemented as well. Approximately 43 additional miles of light rail transit, and 175 miles of bus rapid transit and enhanced bus service would be added to the existing system. In addition, the 2030 LRP Update includes a 66-mile commuter rail line linking Weber, Davis, and Salt Lake Counties. Bus service is recommended to almost double over the next 27 years. This increase in transit will translate into greater service coverage, more frequent service, and longer hours of operation. Several corridors have been identified for priority or high frequency bus transit service. The 2030 LRP also identifies needed transit hubs, intermodal centers, park-and ride lots, and needed paratransit service.

Highway And Transit Project Phasing

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 was developed within the constraints of financial feasibility. The list of highway and transit facility improvements contain only those projects that can be funded over the next 27 years. Reasonable assumptions were made concerning both future revenues for transportation improvements and the estimated costs of recommended highway and transit facilities. To coincide with anticipated financing and revenue streams, the implementation of the 2030 LRP Update has been divided into three separate phases: Phase 1 (2004-2012); Phase 2 (2013-2022); and Phase 3 (2023-2030).

PREVIOUS PROJECT IMPROVEMENTS

During the two-year period between the 2002-2030 Long Range Transportation Plan's adoption and the Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030, a number of highway and transit upgrades and new construction projects have been completed or are currently under construction. Several major arterial streets have been upgraded including 7000 South between 1700 East and 3000 East, 10600/10400 South between I-15 and Redwood Road, and 1300 East between Van Winkle Expressway and 5900 South. Other planned highway facilities currently under construction. These facilities include 6200 South between 2700 West and 5600 West, 12300/12600 South between 900 East and Bangerter Highway, Syracuse Road between Main Street in Clearfield and 1000 West, interchanges improvements on US-89 at both Burke and Shepard Lanes in Farmington. Table VI-1 identifies projects from the 2002-2030 LRP which have either been completed, modified in scope, or are currently under construction.

Table VI-1

WASATCH FRONT URBAN AREA HIGHWAY PROJECTS FROM 2002-2030 PLAN COMPLETED, MODIFIED, OR UNDER CONSTRUCTION

STREET	FROM	TO	TYPE	STATUS
SALT LAKE AREA PROJECTS				
2700 South	Bangerter Highway	4800 West	New Construction	Completed
3500 South Interchange	@ I-215		Improve Flow	Completed
5400 South	RR Structure @ 4800 West		Widening	Completed
6200 South	2700 West	5600 West	Widening	Under Construction
7000 South	1700 East	3000 East	Widening	Completed
7800 South	Redwood Road	2700 West	Widening	Under Construction
9800 South / 10000 South	I-15	1300 West	New Construction	Completed
10400 South / 10600 South	I-15	Redwood Road	Widening	Completed
12300 South / 12600 South	900 East	Bangerter Highway	Widening	Under Construction
5600 West	2100 South	4400 South	Widening	Completed
Redwood Road	9000 South	10400 South	Widening	Under Construction
1300 East	Van Winkle Expressway	5900 South	Widening	Completed
1300 East	Creek Road	7800 South	Widening	Completed
OGDEN / LAYTON AREA PROJECTS				
2700 North (SR-134)	1900 West (SR-126)	US-89	Widening	Under Construction
30th Street / 31st Street	Wall Avenue	Washington Blvd.	Widening	Under Construction
30th Street	Washington Blvd.	Harrison Blvd.	Widening	Under Construction
40th Street	Gramercy Avenue	Harrison Blvd.	Widening	Under Construction
200 South / Center	500 West (Clearfield)	SR-126 (Clearfield)	New Construction	Completed
Syracuse Road (SR-108)	Main Street (Clearfield)	1000 West	Widening	Under Construction
Hill Field Road Extension	Angel Street	2200 West (Layton)	New Construction	Completed
1900 West (Sr-126)	Weber River	12th Street	Widening	Under Construction
US-89 Interchange	@ Burke Lane		New Construction	Under Construction
US-89 Interchange	@ Shepard Lane		New Construction	Under Construction

The major transit projects recommended in the previous 2002-2030 Long Range Transportation Plan which have been completed, modified or are currently under construction include the downtown Salt Lake to University of Utah light rail line, the University Medical Center light rail line extension, and the Salt Lake City and Ogden Intermodal Centers. The Utah Transit Authority has acquired approximately 175 miles of railroad right-of-way for a future commuter rail line connecting Weber, Davis, and Salt Lake Counties. UTA also secured ownership of the Union Pacific maintenance depot located near 800 North and Beck Street. Table VI-2 lists the 2030 LRP Update transit projects that have been completed, modified, or are currently under construction.

Table VI-2

WASATCH FRONT URBAN AREA TRANSIT PROJECTS FROM 2002-2030 PLAN COMPLETED, MODIFIED, OR UNDER CONSTRUCTION

PROJECT	FROM	TO	STATUS
Ogden Intermodal Center	Wall Avenue near 24th Street		Completed
Salt Lake Intermodal Center	600 West 200 South		Under Construction
Sandy City to Salt Lake City LRT	10000 South	Delta Center	Completed
University of Utah LRT	Delta Center	Rice Eccles Stadium	Completed
Medical Center LRT	Rice Eccles Stadium	University Medical Center	Completed

HIGHWAY IMPROVEMENTS FOR 2030

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 includes street and highway capacity increasing improvements to meet the region's travel needs in 2030. The recommended projects were developed to serve identified needs and were reviewed and recommended through the: (1) input provided by various community and elected officials; (2) evaluation of the 2030 LRP Update alternatives; (3) travel demand modeling and analysis; and (4) the Congestion Management System (CMS) process. Due to financial constraints, not all of the new capacity needs for 2030 can be met by the 2004-2030 LRP Update. By identifying expected highway revenues and expected construction and maintenance costs, the WFRC developed a list of new capacity highway projects for which funding will likely be available beginning in 2004 and continue through 2030. Recognizing that this financially constrained plan will not address all the new capacity needs, the WFRC also included a list of illustrative highway facilities that should be considered if funding sources can be identified for these projects.

The first segment of the Legacy Highway should be constructed in the southern portion of Davis County. The proposed Legacy Highway will also provide an alternate route to I-15. Additional general purpose and HOV lanes on I-15 from 600 North in Salt Lake City to Farmington will also be needed. By 2030, growth in western Salt Lake County will fill in most of the area between the existing urban area and the Oquirrh Mountains. This new growth will be along a north-south axis, and will be inadequately served by existing freeways and arterial streets. Constructing the Mountain View Corridor, as a 6-lane freeway from Sr-201 in Salt Lake County southward to 13400 South and then extending it from 13400 South to Redwood Road as a principal arterial street, will serve this growth. Capacity should also be added to the SR-201 between the Jordan River and the Mountain View Corridor. Reconstructing I-80 east of I-15 to the mouth of Parleys Canyon will be needed before 2020.

In addition to freeway needs in Salt Lake County, such as the construction of Mountain View Corridor and the upgrading of I-80 and the SR-201, the highway element includes improvements to the arterial street system. Projects to improve east-west flow include California Avenue, Lake Park Blvd., 3500 South, 3900 South, 4500/4700 South, 6200 South, 7000/7200 South, 9000/9400 South, 10600/10400 South, 11400/11800 South, and 12300/12600 South. Projects designed to improve north-south flow are the widening or new construction of State Street, 700 East, 1300 East, 2000 East, Wasatch Boulevard, Redwood Road, 5600 West, US-111/8400 West, and Porter Rockwell Road. Highland Drive and 2000 East will be extended to connect to the Bangerter Highway/I-15 interchange at 13500 South.

The two major metropolitan centers of Salt Lake and Ogden pull a growing number of work, shopping and entertainment related trips from Davis County. Travel between Salt Lake and Ogden Cities is channeled through a geographically constricted area bordered by the Great Salt Lake on one side and the Wasatch Mountains on the other. As all three Counties of Salt Lake, Davis, and Weber continue to experience considerable population growth, the need for improved north-south transportation capacity will become more apparent. Upgrades of existing highways along with the construction of new facilities are needed.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recognizes the need to eventually extend the current reconstruction of I-15 in Davis County into Weber County as well. Widening of I-15 is needed between Hillfield Road Interchange in Layton through Weber County to 2700 North in Farr West. This proposed upgrading would allow for six travel lanes from 2700 North to 12th Street, and eight travel lanes from 12st Street to the Hillfield Road Interchange. Additional freeway capacity, including general purpose and high occupancy vehicle (HOV) lanes on I-15 from southern Davis County to Farmington, will be needed to help address the commuting needs of Davis County. Arterial street improvements in Weber County include Pioneer Road, 1200 South, 24th Street, Hinckley Drive, Midland Drive, Riverdale Road, Harrison Blvd., 4000 South and 4800 South.

The first segment of the Legacy Parkway will be constructed in the southern portion of Davis County as an expressway, with an eventual extension of a principal arterial roadway into northern Davis and Weber Counties. Continuing the Legacy Parkway through northern Davis County into Weber County will help serve the growing travel demand of Weber County's western communities. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 calls for the upgrading of US Highway 89 to an access-restricted, 6-lane principal arterial from Farmington to I-84. A total of five new interchanges or overpasses are planned for this section of US Highway 89, of which two are currently under construction. These facilities will help improve traffic flow between the Salt Lake and Ogden areas while providing a viable alternative to I-15. By 2030, growth in western Weber County will fill in most of the area between the existing urban area and identified wetlands of the Great Salt Lake. This new growth will be along an east-west axis, and will be inadequately served by existing arterial streets.

Several important upgrades are planned for arterial streets in northern Davis County and parts of Weber County. These improvements include the widening of 1800 North and 2300 North in Clinton, Syracuse Road between the Freeport Center and 4500 West, Gentile Street/Oakhills Drive in Layton between SR-126 and US-89 and 200 North in Kaysville between I-15 and Angel Street. Notable projects to increase regional north-south capacity are upgrades of Fairfield Road, Midland Drive, 3500 West in Weber County, 2000 West in Davis County, Monroe Boulevard, Adams Avenue and 1100/1200 West in Ogden.

New Capacity Project List

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 New Capacity Project List provides details on which sections of roadways will require capacity improvements or new construction by 2030. Each segment includes a future functional class, number of lanes, recommended right-of-way, and suggested phasing (2004-2012, 2013-2022 or 2023-2030) of each project. The 27-Year New Capacity Summary Project List is shown as Table VI-3. Projects that have been added as part of the 2030 LRP Update are marked to the left with an asterisk. Each highway project is further described in Appendix D.

Table VI-3 WASATCH FRONT URBAN AREA 27-YEAR NEW CAPACITY SUMMARY PROJECT LIST

	ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	BIKE CLASS	2030 LANES	2030 ROW (FT.)	PHASE 1=04-2012 2=13-2022 3=23-2030
* *Indicates projects added since 2002-2030 Long Range Plan*											
		SALT LAKE COUNTY, EAST-WEST FACILITIES									
	1	500 / 700 South	Surplus Canal	Mountain View Corridor	Widening	4.2	Collector	0	4	84	2
	2	Indiana Avenue	Redwood Road	Pioneer Road	Widening	1.1	Collector	2	4	84	2
	3	Indiana Avenue	Pioneer Road	California Avenue	New Construction	1.7	Collector	2	4	84	2
	4	California Avenue	Pioneer Road	Bangerter Hwy.	Widening	1.7	M. Arterial	0	6	110	2
	5	California Avenue	Bangerter Hwy.	4800 West	Widening	0.8	M. Arterial	2	6	110	2
	6	California Avenue	4800 West	Mountain View Corridor	Widening	1.0	M. Arterial	2	6	110	2
	7	I-80	State Street	Parleys Canyon	Widening	5.6	Freeway	0	8	200	2
	8	SR-201	Jordan River	3200 West	Widening	2.6	Freeway	0	6	200	1
	9	SR-201	3200 West	Mountain View Corridor	Widening	3.4	Freeway	0	6	300	2
	10	SR-201	I-215 Interchange and Auxiliary Lanes		Upgrade	-	Freeway	0	-	300	3
	11	SR-201 Interchange	@ 7200 West		New Construction	0.0	Freeway	0	-	-	2
	12	SR-201 Interchange	@ 8400 West		New Construction	0.0	Freeway	0	-	-	2
*	104	2700 South	4800 West	5600 West	New Construction	1.4	M. Arterial	2	4	80	1
	13	3100 South	1400 West	3300 South	New Construction	0.5	Collector	2	4	88	1
*	14	3500 South	Redwood Road	4000 West	Widening	1.5	P. Arterial	0	6	106	1
	15	3500 South	4000 West	Mountain View Corridor	Widening	2.3	P. Arterial	0	6	106	1
*	16	3500 South	Mountain View Corridor	8400 West	Widening	3.2	M. Arterial	0	4	106	2
	17	3900 South	2300 East	Highland Drive	Widening	1.0	M. Arterial	3	4	84	1
	18	4500 South	2300 East	700 East	Widening	2.4	P. Arterial	0	4	106	3
	19	4500 South	I-15	State Street	Widening	0.7	P. Arterial	0	6	106	1
	20	4700 South	I-15	Redwood Road	Widening	2.0	P. Arterial	3,0	6	150	2
	21	4700 South	4000 West	Mountain View Corridor	Widening	2.3	P. Arterial	3	4	106, 80	2
	23	6200 South	5600 West	SR-111	New Construction	1.8	M. Arterial	3	4	106	2
*	112	7000 South	3000 East	Wasatch Blvd.	Widening	1.0	M. Arterial	0	4	80	1
	24	7000 South	Redwood Road	Bangerter Hwy.	Widening	1.9	M. Arterial	2	4	80	2
	25	New Bingham Hwy.	7800 South	SR-111	Widening	4.4	M. Arterial	0	4	106	3
	26	7800 South	2700 West	Bangerter Hwy.	Widening	1.0	M. Arterial	2	4	106	1
	27	7800 South	Bangerter Hwy.	Mountain View Corridor	Widening	2.8	M. Arterial	2	4	125	1
*	222	7800 South	Mountain View Corridor	SR-111	Widening	1.4	M. Arterial	3	4	125	2
	28	9000 So./9400 So.	700 East	1300 East	Widening	1.3	P. Arterial	1	4	106	1
	30	9000 South	Bangerter Hwy.	New Bingham Highway	Widening/NC	3.1	P. Arterial	2	4	106	1
	29	9400 South	2100 East	Wasatch Boulevard	Widening	2.1	P. Arterial	1	4	106	3
	31	9800 South/10000 South	1300 West	Redwood Road	New Construction	0.5	Collector	2	2	70	1
	32	10600 South	1300 East	Highland Drive	Widening	0.9	M. Arterial	1	4	80	1

Table VI-3 WASATCH FRONT URBAN AREA 27-YEAR NEW CAPACITY SUMMARY PROJECT LIST (Continued)

ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	BIKE CLASS	2030 LANES	2030 ROW (FT.)	PHASE 1=04-2012 2=13-2022 3=23-2030
	SALT LAKE COUNTY, EAST-WEST FACILITIES CONTINUED									
33	10400 South	Redwood Road	Bangerter Hwy.	Widening	2.0	M. Arterial	2	4	106	1
34	10400 South	Bangerter Hwy	SR-111	New Construction	5.0	M. Arterial	0	4	110	2
35	11400 South	1300 East	Highland Drive	Widening	1.1	M. Arterial	2,0	4	80	3
37	11400 South	I-15	700 East	Widening	1.2	M. Arterial	1	4	106	1
38	11400 South	I-15	Redwood Road	Widening/NC	2.3	M. Arterial	1,2	4	106	1
39	11400 South	Redwood Road	Bangerter Hwy.	Widening	2.4	M. Arterial	1,2	4	110	2
40	11400 South / 11800 South	Bangerter Hwy	SR-111	Widening/NC	4.9	M. Arterial	0	4	110, 84	2
42	12600 South	Bangerter Hwy	5200 West	Widening	2.0	M. Arterial	2	4	106	3
43	12600 South	5200 West	SR-111	Widening/NC	3.7	M. Arterial	0	4	106	3
44	13400 South	Mountain View Corridor	Bangerter Hwy.	Upgrade	1.0	P. Arterial	0	6	150	3
45	14600 South	D&RG RR Structure		Remv or Repl	0.0	M. Arterial		2	-	3
46	Porter Rockwell Road	Frontage Road	Redwood Road	New Construction	1.7	M. Arterial	2	4	167	3
47	Porter Rockwell Road	I-15/14600 South Interchange	Frontage Road	Widening	1.1	M. Arterial	0	4	167	3
48	Avalanche snowshed over Little Cottonwood Canyon Road @			New Construction	0.0	M. Arterial		-	-	1
	SALT LAKE COUNTY, NORTH-SOUTH FACILITIES									
84	8400 West/SR-111	SR-201	3500 South	Widening	1.5	M. Arterial	2	4	106	3
85	8400 West/SR-111	5400 South	11800 South	Widening	8.5	M. Arterial	2	4	106	3
78	Mountain View Corridor	I-80	Utah County Line	ROW Purch.	25.5	Various	1	-	328	1
79	MVC / 5600 West	I-80	2100 South	Widen/NC	3.3	P. Arterial	1	6	150	3
80	Mountain View Corridor	2100 South	6200 South	New Construction	6.0	Freeway	1	6	328	1
81	Mountain View Corridor	6200 South	10500 South	New Construction	5.9	Freeway	1	6	328	2
231	Mountain View Corridor	10500 South	13400 South	New Construction	3.4	Freeway	1	2	328	2
82	Mountain View Corridor	10500 South	13400 South	New Construction	3.4	Freeway	1	6	328	3
83	Mountain View Corridor	13400 South	Utah County Line	New Construction	6.9	P. Arterial	1	6	328	3
77	5600 West	4400 South	6200 South	Widening	2.5	M. Arterial	2	4	106	1
75	Gladiola (3400/3200 W)	500 South	California Avenue	Widening/NC	1.2	Collector	2	4	84	2
76	3200 West	California Avenue	1820 South	New Construction	0.7	Collector	2	4	84	2
74	2200 West	2200 North	700 North	Widening	2.0	Collector	2	4	84	2
54	I-215	I-80 (West Side)	300 East	Widening	11.2	Freeway	0	8	300	1
55	I-215 Interchange	@ 3900 South or 4500 South		Upgrade	0.0	Freeway	0	-	-	3
72	Redwood Road	Davis County Line	1000 North	Widening	2.2	M. Arterial	2,0	4	106	2
73	Redwood Road	10400 South	Bangerter Hwy.	Widening	4.3	P. Arterial	0,2	4	106	1
101	Redwood Road	Bangerter Hwy.	Utah County Line	Widening	4.8	P. Arterial	0,2	4	106	1
71	900 West	3300 South	700 West	New Construction	0.9	Collector	2	4	80	2
70	Bingham Junct. Blvd.	6800 South	8400 South	New Construction	2.1	M. Arterial	2	4	84	2
49	I-15	I-215	Beck Street	Upgrade	1.2	Freeway	0	6	200	1
88	I-15	I-215	Beck Street	Widening	1.2	Freeway	0	8	200	3
50	I-15	Beck Street	600 North	Widening	3.0	Freeway	0	8	200	3

Table VI-3 WASATCH FRONT URBAN AREA 27-YEAR NEW CAPACITY SUMMARY PROJECT LIST (Continued)

	ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	BIKE CLASS	2030 LANES	2030 ROW (FT.)	PHASE 1=04-2012 2=13-2022 3=23-2030
		SALT LAKE COUNTY, NORTH-SOUTH FACILITIES CONTINUED									
	51	I-15	10600 South	Bangerter Hwy.	Widening	3.8	Freeway	0	10	260	1
	52	I-15	Bangerter Hwy.	Utah Co. Line	Widening	3.9	Freeway	0	9	260	1
*	221	I-15	10600 South	Utah Co. Line	Widening	7.7	Freeway	0	10/11	260	2
	36	I-15 Interchange	@ 11400 South		New Construction	0.0	Freeway	0	-	-	1
	53	I-15 Interchange	@ 14600 South		Upgrade	0.0	Freeway	0	-	-	3
	56	Main Street	4400 South	Vine Street	New Construction	0.9	Collector	0	4	80	2
	57	Main Street / 300 West	5200 South	7200 South	Widening/NC	3.1	Collector	0	4	80	1
	58	State Street	7200 South	11400 South	Widening	5.3	M. Arterial	0	6	100	1
	59	700 East	9400 South	12300 South	Widening	3.7	P. Arterial	2	4	106	1
	60	900 East	2900 South	4500 South	Widening	2.1	Collector	2	4	66, 80	3
	61	900 East	Van Winkle Expressway	6600 South	Widening	2.4	P. Arterial	0	6	106	1
	63	2000 East	Fort Union Blvd.	9400 South	Widening	3.1	P. Arterial	0,2	6	106	3
	64	Highland Drive	9400 South	Sego Lily	Widening/NC	1.2	P. Arterial	1	4	106	1
	65	Highland Drive	Sego Lily	13800 South	New Construction	4.4	P. Arterial	1	4	106	2
	66	Highland Drive Conn.	13800 South	I-15	Widening/NC	2.6	P. Arterial	2	4	106	2
	67	I-80 to I-215 Ramp (Parley's)	I-80 Eastbound	I-215 Southbound	Widening	0.5	Freeway	0	2	-	2
	68	Wasatch Boulevard	7000 South	North Little Cotton Road	Widening	2.2	P. Arterial	2	4	150	2
	69	Wasatch Boulevard	North Little Cotton Road	Little Cottonwood Road	Widening	1.1	Collector	2	4	80	1
		SALT LAKE AREA ILLUSTRATIVE PROJECTS									
	98	I-215	I-15 (North Salt Lake)	I-80 (West Side)	Widening	6.3	Freeway	0	8	300	Illustrative
	99	I-215	300 East	2000 East	Widening	3.5	Freeway	0	8	300	Illustrative
	100	SR-201	Mountain View Corridor	I-80	Widening	8.9	Freeway	0	6	300	Illustrative
	102	Foothill Drive	1700 South	I-80	Widening	1.5	P. Arterial		6	106	Illustrative
		SALT LAKE AREA PROJECTS FROM 2002 PLAN - COMPLETED, DELETED, MODIFIED, OR UNDER CONSTRUCTION									
	22	6200 South	2700 West	5600 West	Widening	3.5	M. Arterial	2,3	4	Under Construction	
	26	7800 South	Redwood Road	2700 West	Widening	1.2	M. Arterial	2	4	Under Construction	
	27	9800 South/10000 South	I-15	1300 West	New Construction	1.5	Collector	2	2	Completed	
	41	12300 South/12600 South	900 East	Bangerter Hwy.	Widening	6.4	P. Arterial	2	4	Under Construction	
	62	1300 East	Creek Road	7800 South	Widening	0.6	M. Arterial	2	6	Completed	
	73	Redwood Road	9000 South	10400 South	Widening	1.8	P. Arterial	0,2	4	Under Construction	
*	104	2700 South	Bangerter Hwy.	4800 West	New Construction	1.2	M. Arterial	2	4	Completed	
	106	3500 South Interchange	@ I-215		Improve flow	0.0	Freeway	0	-	Completed	
	107	5400 South	RR Structure @ 4800 West		Widening	0.0	M. Arterial	0	-	Completed	
	112	7000 South	1700 East	3000 East	Widening	1.7	M. Arterial	0	4	Completed	
	114	10400 So./10600 So.	I-15	Redwood Road	Widening	2.3	M. Arterial	2,3	4	Completed	
	121	1300 East	Van Winkle Expressway	5900 South	Widening	2.0	M. Arterial	2	4	Completed	
	124	5600 West	2100 South	4400 South	Widening	2.0	Collector	2	4	Completed	

Table VI-3 WASATCH FRONT URBAN AREA 27-YEAR NEW CAPACITY SUMMARY PROJECT LIST (Continued)

ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	BIKE CLASS	2030 LANES	2030 ROW (FT.)	PHASE 1=04-2012 2=13-2022 3=23-2030
	DAVIS COUNTY, EAST-WEST FACILITIES									
127	2300 North (Clinton)	RR Structure		Remv or Repl	0.2	Collector	0	2	66	1
128	1800 North	Main Street (Sunset)	2000 West (Clinton)	Widening	2.0	M. Arterial	3	4	84	3
129	1800 North (Clinton)	2000 West	5000 West	Widening	3.0	M. Arterial	3	4	84	2
130	700 South	State Street (Clearfield)	South Main Street	Widening	0.6	Collector	3	4	106	1
131	200 South/700 S Conn.	200 South (Clearfield)	700 South (Clearfield)	New Construction	0.7	Collector	0	2	106	1
132	200 South	500 West (Clearfield)	2000 West	Widening/NC	1.6	Collector	3	4	106	1
133	200 South (Syracuse)	2000 West	Legacy Parkway	New Construction	1.3	Collector	3	2	106	2
135	Syracuse Road(SR-108)	1000 West	2000 West	Widening	1.0	M. Arterial	2	4	106	1
136	Syracuse Road(SR-127)	2000 West	4500 West	Widening	2.5	M. Arterial	2	4	106,84	2
139	Antelope Drive	2200 East	US-89	New Construction	0.6	M. Arterial	2	2	84	2
140	Gordon Avenue (1000 N.)	1600 East	US-89	New Construction	1.3	Collector	0	4	84	2
137	Hill Field Road Extension	2200 West	3200 West (Layton)	New Construction	2.1	M. Arterial	0	4	110	2
141	Gentile St (Layton)	SR 126	Fairfield Road	Widening	1.0	M. Arterial	3	4	84	1
142	Gentile St (Layton)	Fairfield Road	1350 East (Oakhills Drive)	Widening	0.3	M. Arterial	3	4	84	2
143	Oakhills Drive(SR-109)	1350 East	US-89	Widening	1.5	M. Arterial	3	4	84	2
144	700 South (Layton)	I-15	2700 West (Layton)	New Construction	3.1	M. Arterial	0	4	84	2
145	200 North (Kaysville)	700 East	US-89	Widening	0.6	M. Arterial	3	4	80	1
146	200 North (Kaysville)	I-15	Legacy Parkway	Widening	3.0	M. Arterial	3	4	80	2
90	Parrish Lane (Centerville)	I-15	Legacy Parkway	Widening/NC	0.6	M. Arterial	3	4	110	1
92	500 South	I-15	Legacy Parkway	Widening	2.0	M. Arterial	0	4	106	1
	DAVIS COUNTY, NORTH-SOUTH FACILITIES									
157	Legacy Parkway	5500 South (Roy)	I-15/US-89	ROW Purch.	17.7	P. Arterial	1	-	320	1
158	Legacy Parkway	Weber Co. Line	Syracuse Road	New Construction	4.5	P. Arterial	1	4	320	2
159	Legacy Parkway	Syracuse Road	Gentile St (Layton)	New Construction	3.0	P. Arterial	1	4	320	3
227	Legacy Parkway	Gentile St (Layton)	I-15/US-89 (Farmington)	New Construction	9.4	P. Arterial	1	2	320	1
228	Legacy Parkway	Gentile St (Layton)	I-15/US-89 (Farmington)	Widening	9.4	P. Arterial	1	4	320	2
94	Legacy Parkway	I-15/US-89 (Farmington)	I-215	New Construction	12.0	P. Arterial	1	4	300	1
155	2000 West (SR-108)	Syracuse Road(SR-108)	Weber County Line	Widening	4.5	M. Arterial	3	4	106	1
156	2700 West (Layton)	Hill Field Road Extension	Legacy Parkway	New Construction	1.4	M. Arterial	0	4	106	2
93	Redwood Road	500 South (Davis Co.)	Salt Lake Co. Line	Widening	4.3	M. Arterial	3	4	106	2
147	I-15	Weber Co. Line	Hillfield Road (SR-232)	Widening	6.4	Freeway	0	8	240	3
138	I-15 Interchange	@ Hillfield Road		Upgrade	0.0	Freeway	0	-	-	2
148	I-15 Interchange	@ South Layton Interchange		Upgrade	0.0	Freeway	0	-	-	1
86	I-15	US-89 (Farmington)	500 S. (Davis Co)	Widening	7.1	Freeway	0	10	200	3
149	I-15 Interchange	@ Glovers Lane or Lund Lane		New Construction	0.0	Freeway	0	-	-	3
89	I-15 Interchange	@ Parrish Lane		Widening	0.0	Freeway	0	-	-	1
87	I-15	500 S. (Davis Co)	I-215	Widening	3.6	Freeway	0	10	200	2
150	Main Street	200 North (Kaysville)	I-15 (Layton)	Widening	1.5	M. Arterial	3	4	106	1

Table VI-3 WASATCH FRONT URBAN AREA 27-YEAR NEW CAPACITY SUMMARY PROJECT LIST (Continued)

	ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	BIKE CLASS	2030 LANES	2030 ROW (FT.)	PHASE 1=04-2012 2=13-2022 3=23-2030
		DAVIS COUNTY, NORTH-SOUTH FACILITIES CONTINUED									
	151	Fort Lane (Layton)	Main Street	Gordon Avenue (1000 N.)	Widening	1.6	Collector	0	4	84	1
	152	Fairfield Road	200 North (Kaysville)	Gentile St (Layton)	Widening	1.6	Collector	3	4	80	2
	153	Fairfield Road	Gentile St (Layton)	SR-193	Widening	2.9	Collector	3	4	92	2
	154	Church Street	Gordon Avenue (1000 N.)	SR-193	Widening	2.1	Collector	0	4	66, 84	2
	91	Bountiful Blvd.	Eaglewood	Beck Street	New Construction	3.1	Collector	2	2	66	2
	160	US-89	I-15 (Farmington)	I-84	Widening	11.1	P. Arterial	1,3	6	150	3
	166	US-89 Interchange	@ Antelope Drive		New Construction	0.0	P. Arterial	1	-	-	2
	165	US-89 Interchange	@ Gordon Avenue		New Construction	0.0	P. Arterial	1	-	-	2
	164	US-89 Interchange	@ Oakhills Drive (SR-109)		New Construction	0.0	P. Arterial	1	-	-	2
	163	US-89 Interchange	@ 400 North (Fruit Heights)		New Construction	0.0	P. Arterial	1	-	-	1
		WEBER COUNTY, EAST-WEST FACILITIES									
	171	Mountain Road	2700 North	US-89	New Construction	5.6	M. Arterial	1	4	80	3
	174	Pioneer Road	I-15	1200 West	Widening	0.9	Collector	3,0	4	106	2
	175	Pioneer Road / 2nd Street	1200 West	Wall Avenue	Widening	1.8	Collector	3,0	4	84	1
	176	2nd Street	Wall Avenue	Washington Blvd.	Widening	0.4	Collector	3,0	4	84	2
	177	12th Street (SR 39)	1200 West	Wall Avenue	Widening	1.6	P. Arterial	3	6	150	2
	178	1200 South	I-15	Legacy Parkway	Widening	4.4	P. Arterial	3	4	110	3
	180	24th Street	I-15	Lincoln Avenue	Widening	1.7	P. Arterial	3	4	100	3
	181	Hinckley Drive	I-15	Wall Avenue	Widening	0.8	P. Arterial	3	6	125	1
	184	40th Street	Wall Avenue	Gramercy Avenue	Widening	1.6	M. Arterial	3	4	84	1
	185	4000 South (SR-37)	1900 West (SR-126) (Roy)	4700 West (W. Haven)	Widening	3.5	Collector	3	4	84	2
	186	Midland Drive(SR-108)	SR-126 @ SR-79	3500 West (Roy)	Widening/NC	2.6	M. Arterial	3	4	100	1
	187	4800 South	1900 West (SR-126) (Roy)	3500 West (Roy)	Widening	2.0	Collector	3	4	80	1
	188	5500 South	3500 West (Roy)	5900 West (Hooper)	Widening	3.1	M. Arterial	3,0	4	84	2
	189	5600 South Conn.	I-15	I-84	New Construction	1.2	M. Arterial	0	-	-	2
	190	Edgewood Drive	Adams Avenue	Glassman Way	New Construction	0.4	Collector	0	2	66	1
		WEBER COUNTY, NORTH-SOUTH FACILITIES									
	212	Legacy Parkway	5500 South (Roy)	12th Street	ROW Purch.	5.7	Various	1	-	220	1
	213	Legacy Parkway	5500 South (Roy)	Davis Co. Line	New Construction	0.8	P. Arterial	1	4	320	2
	191	4700 West	4000 South	4800 South	New Construction	1.0	M. Arterial	0	4	100	2
	200	3500 West (SR-108)	Midland Drive	Davis County Line	Widening	1.6	M. Arterial	3	4	100	1
	208	I-15	2700 North	450 North	Widening	2.6	Freeway	0	6	220	3
	230	I-15	450 North	12th Street	Widening	1.8	Freeway	0	6	220	2
	209	I-15	12th Street	31st Street	Widening	4.8	Freeway	0	8	220	1
	210	I-15	31st Street	Davis Co. Line	Widening	4.1	Freeway	0	8	220	3
	179	I-15 Interchange	@ 24th Street		Upgrade	0.0	Freeway	0	-	-	1
	211	I-15 Interchange	@ I-84		Upgrade	0.0	Freeway	0	-	-	3
*	229	I-15 Interchange	@ Riverdale Road (SR-26)		Upgrade	0.0	Freeway	0	-	-	1

Table VI-3 WASATCH FRONT URBAN AREA 27-YEAR NEW CAPACITY SUMMARY PROJECT LIST (Continued)

ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	BIKE CLASS	2030 LANES	2030 ROW (FT.)	PHASE 1=04-2012 2=13-2022 3=23-2030
	WEBER COUNTY, NORTH-SOUTH FACILITIES CONTINUED									
196	1200 West	12th Street	400 North	Widening	1.6	Collector	3	4	80	2
195	1200 West	17th Street	12th Street	Widening	0.6	Collector	3	4	80	1
194	1100/1200 West	Weber River	17th Street	New Construction	0.3	Collector	3	4	80	1
193	1100 West	20th Street	Weber River	Widening	0.3	Collector	0	4	80	1
204	Riverdale Road (SR-26)	SR-126	Wall Avenue	Widening	3.0	P. Arterial	3	6	120	1
205	Riverdale Road (SR-26)	Wall Avenue	Washington Blvd.	Widening	0.7	P. Arterial	0,3	4	100	1
198	300 West	Riverdale Road	4400 South	Widening	0.5	Collector	0	4	100	1
199	300 West	4400 South	4800 South	Widening	0.3	Collector	0	4	100	1
201	Wall Avenue	2700 North	US-89	New Construction	2.4	Collector	0	2	66	3
192	Monroe Boulevard	1300 North	2700 North	New Construction	2.0	M. Arterial	0,3	4	80	2
202	Harrison Blvd.	400 North	7th Street	Widening	1.0	Collector	3	4	100	2
203	Harrison Blvd.	12th Street	US-89	Widening	6.1	P. Arterial	3	6	100	2
226	US-89	I-84	Harrison Blvd.	Widening	1.9	P. Arterial	1,3	6	150	1
214	US-89 Interchange	@ Uintah/I-84		Upgrade	0.0	P. Arterial	1	-	-	1
206	Skyline Drive	US-89	Country Hills Drive	New Construction	3.6	Collector	0	2	80	2
207	Skyline Drive	Country Hills Drive	36th Street	Widening	0.9	Collector	3	4	80	2
	OGDEN / LAYTON AREA ILLUSTRATIVE PROJECTS									
169	I-15	Hillfield Road (SR-232)	US-89	Widening	7.4	Freeway	0	8	240	Illustrative
170	Legacy Parkway	5500 South (Roy)	1200 South	New Construction	5.7	P. Arterial	1	4	220	Illustrative
	OGDEN / LAYTON AREA PROJECTS FROM 2002 PLAN - COMPLETED, DELETED, MODIFIED, OR UNDER CONSTRUCTION									
134	Syracuse Road(SR-108)	Main Street (Clearfield)	1000 West	Widening	1.0	M. Arterial	2	4	Under Construction	
137	Hill Field Road Extension	Angel Street	2200 West (Layton)	New Construction	1.0	M. Arterial	0	4	Completed	
161	US-89 Interchange	@ Burke Lane		New Construction	0.0	P. Arterial	1	-	Under Construction	
162	US-89 Interchange	@ Shepard Lane		New Construction	0.0	P. Arterial	1	-	Under Construction	
172	2700 North (SR-134)	1900 West (SR-126)	US-89	Widening	1.1	M. Arterial	3	4	Under Construction	
173	2700 North	US-89	400 East (N. Ogden)	New Construction	1.9	M. Arterial	3	4	Under Construction	
182	30th Street / 31st Street	Wall Avenue	Washington Blvd.	Widening	0.4	P. Arterial	3	4	Under Construction	
183	30th Street	Washington Blvd.	Harrison Blvd.	Widening	1.1	P. Arterial	3	4	Under Construction	
184	40th Street	Gramercy Avenue	Harrison Blvd.	Widening	0.6	M. Arterial	3	4	Under Construction	
197	1900 West (SR-126)	Weber River	12th Street	Widening	0.4	M. Arterial	3	4	Under Construction	
215	200 South/Center Conn.	500 West (Clearfield)	SR-126 (Clearfield)	New Construction	0.7	Collector	3	2	Completed	

2030 LRP Update Maps

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 identifies highway projects that increase capacity to meet travel demand through either the addition of travel lanes to existing roads or the construction of new highways. These recommended improvements and new construction projects are graphically illustrated as Map VI-1, the "Wasatch Front Urban Area 2030 Projects Map." Illustrative projects are those facilities that the 2030 Long Range Transportation Plan Update would include if adequate funding sources could be identified.

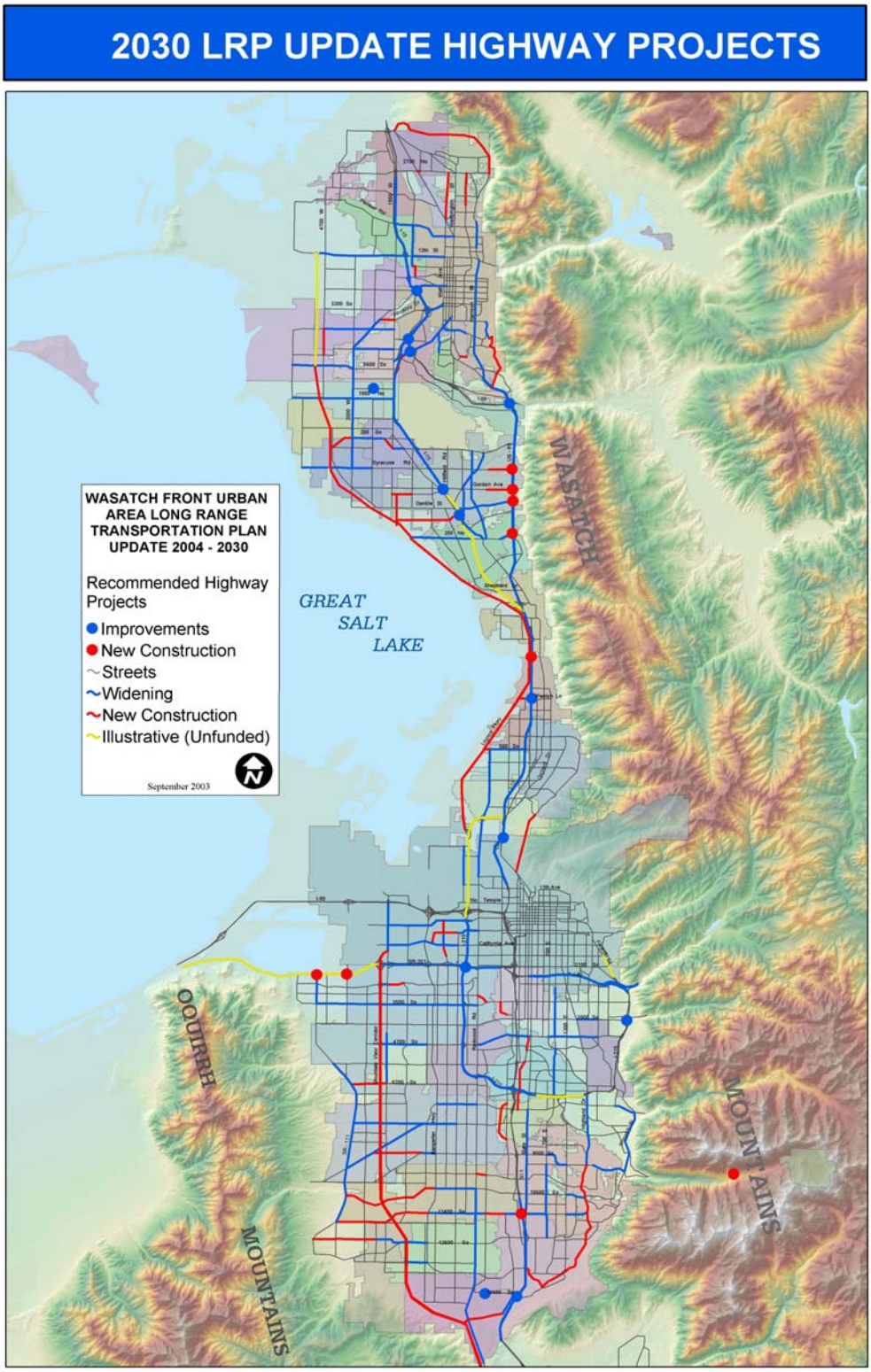
The recommended phasing of highway improvements and new construction of the 2030 LRP Update is shown as Map VI-2 entitled, "Wasatch Front Urban Area 2030 Phasing Map." The recommended phasing of highway improvements falls into one of three categories. Highway projects and improvements that will best satisfy the region's immediate travel demand, and which can be funded, are scheduled in Phase 1, between 2004 and 2012. Phase 2 highway projects and improvements are those scheduled between 2013 and 2022. Finally, Phase 3 highway projects and improvements are those scheduled between 2023 and 2030. Phase 1 highway improvements include projects listed on the current Wasatch Front Regional Council's Transportation Improvement Plan (TIP) for 2004-2008. Non-funded illustrative facilities are included as part of the recommended phasing map.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 also identifies a future street and highway system that will serve the travel needs of the Wasatch Front Region beyond the year 2030. The 2030 LRP Update includes a recommended functional classification system for the Wasatch Front Region, along with future right-of-way widths for all existing and proposed freeways, principal arterials, minor arterials, and collector streets. This information, the 2030 LRP Update's functional classification system and future rights-of-way, is presented on two separate maps.

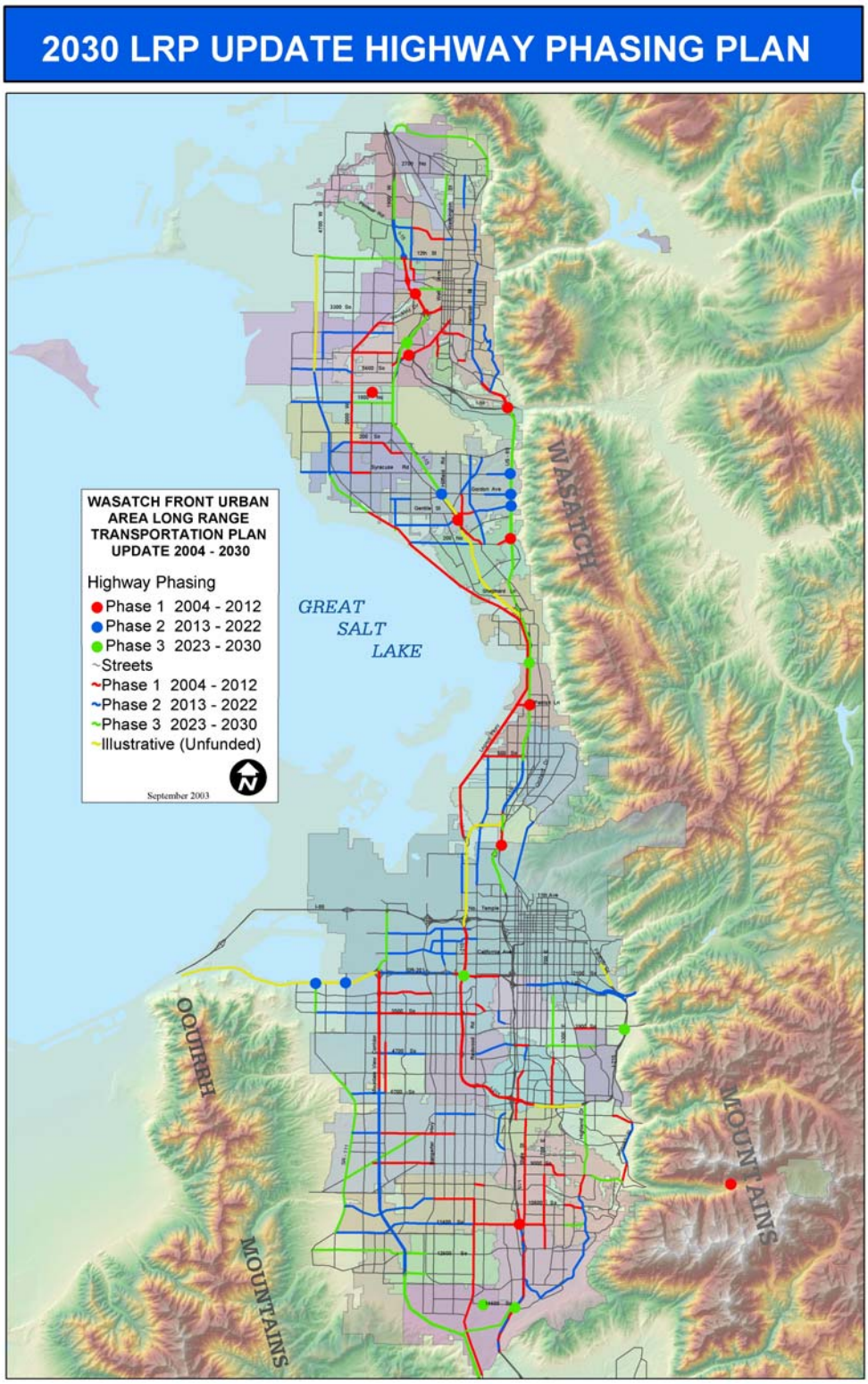
The "Wasatch Front Urban Area Functional Classification," shown in Map VI-3, illustrates the Region's (1) freeways, (2) principal arterials, (3) minor arterials, and (4) collector streets. Freeway systems are the largest traffic facilities built with complete control of access and high design speeds and provide the greatest mobility for regional traffic. Principal arterial streets serve the major centers of activity of a metropolitan areas and the longest projected trips. Minor arterials interconnect with and augment the urban principal arterials system and provide service to forecasted trips of moderate length at a somewhat lower level of travel mobility than principal arterials. These facilities place more emphasis on land access than the higher system, and offer movement within communities, but ideally should not penetrate identifiable neighborhoods. Finally, collector streets provide for both land access service and local traffic movements within residential, commercial, and industrial areas. This particular road classification may penetrate neighborhoods, distributing trips from arterial streets through the area to the ultimate destination. Conversely, collector roads can also be expected to collect traffic from local streets and channel it onto the arterial system. More complete definitions for various highway and street functional classifications can be found in Appendix E.

The master plans of individual cities and counties within the Wasatch Front Urban Area were gathered and reviewed to obtain information concerning existing and future highway and street networks within their jurisdictional boundaries. This information was evaluated and compiled into Map VI-4, entitled "Wasatch Front Urban Area Right-Of-Way." This map helps identify the proper right-of-way widths for the arterial and collector street system needed to adequately serve the fully developed Wasatch Front Region.

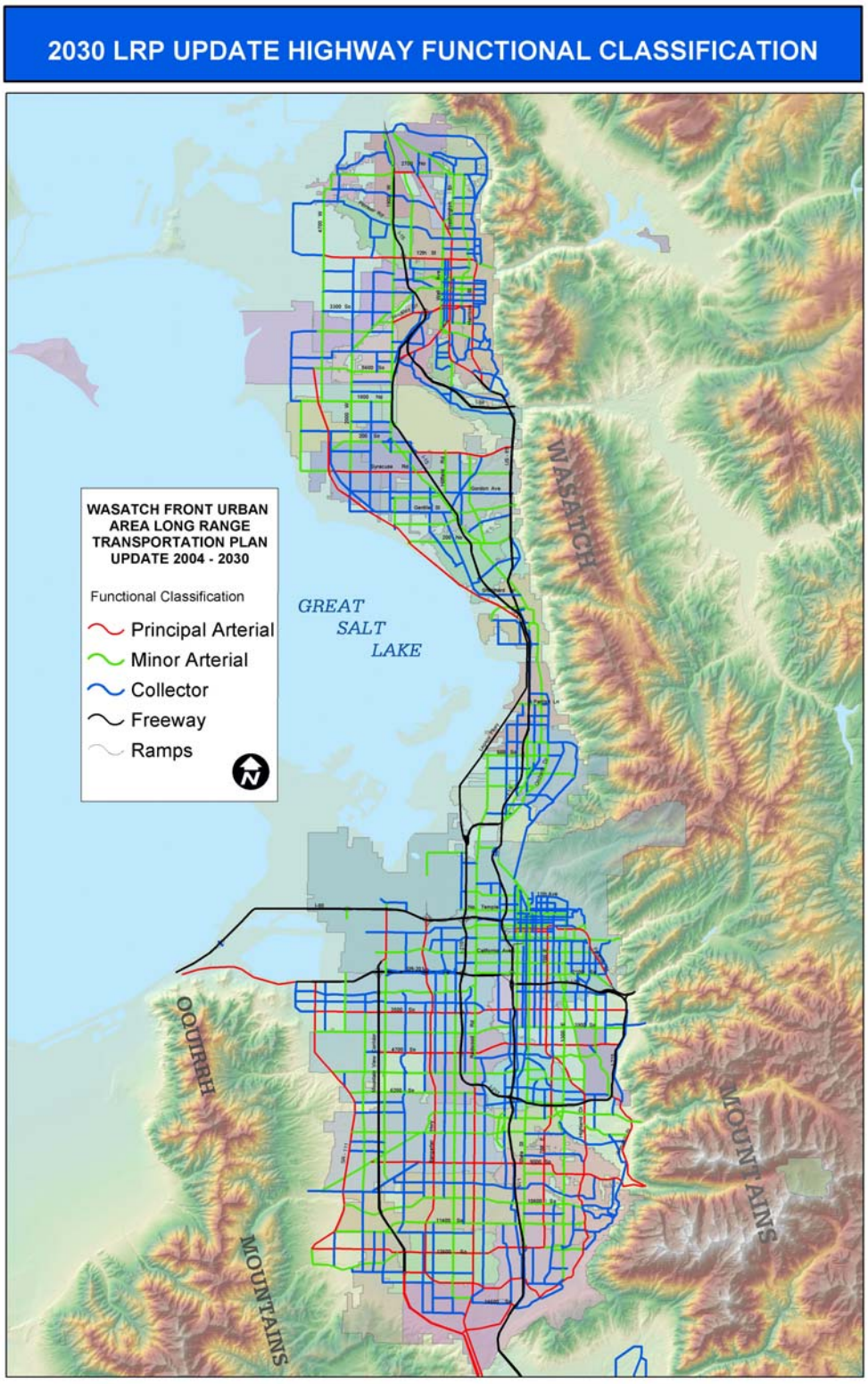
Map VI-1


2030 LRP UPDATE HIGHWAY PROJECTS
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Recommended Highway Projects
Improvements
New Construction
Streets
Widening
New Construction
Illustrative (Unfunded)
September 2003
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

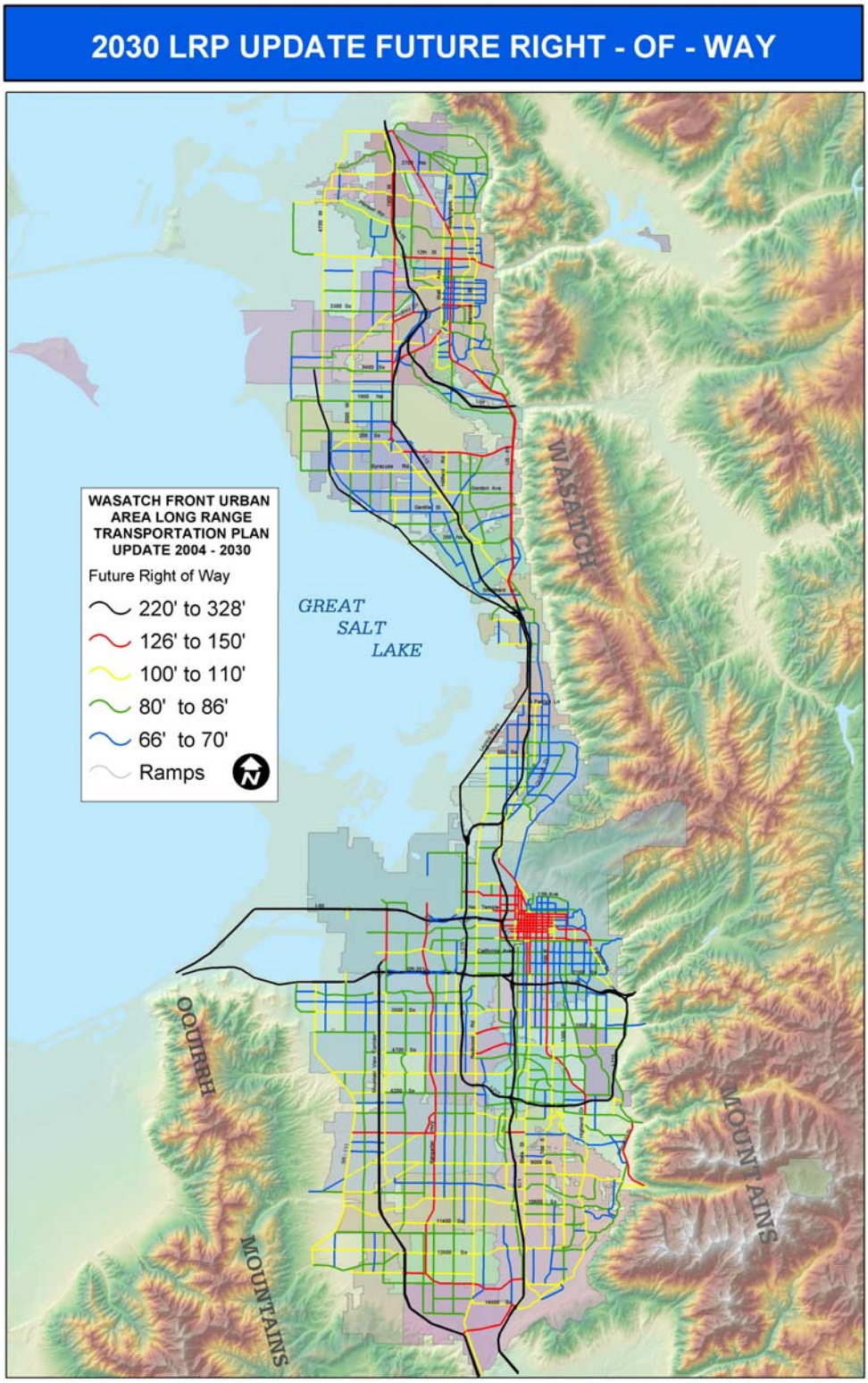
Map VI-2


2030 LRP UPDATE HIGHWAY PHASING PLAN
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Highway Phasing
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Streets
Phase 1 2004 - 2012
Phase 2 2013 - 2022
Phase 3 2023 - 2030
Illustrative (Unfunded)
September 2003
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

Map VI-3


2030 LRP UPDATE HIGHWAY FUNCTIONAL CLASSIFICATION
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Functional Classification
Principal Arterial
Minor Arterial
Collector
Freeway
Ramps
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map VI-4


2030 LRP UPDATE FUTURE RIGHT - OF - WAY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Future Right of Way
220' to 328'
126' to 150'
100' to 110'
80' to 86'
66' to 70'
Ramps
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

The purpose of the "Wasatch Front Urban Area Right-Of-Way" map is to allow the cities and counties within the Wasatch Front Region to preserve the needed rights-of-way as development takes place and to assist cities and counties as they develop land use plans and zoning ordinances. By providing adequate right-of-way for arterial streets and controlling access along those streets, cities can ensure that through traffic on residential streets is minimized.

TRANSIT IMPROVEMENTS FOR 2030

A number of transit system improvements were reviewed and recommended as part of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The planning process and analysis recommended transit improvement in four general areas: (1) the implementation of a regional commuter rail line serving Davis and Weber Counties to the North and southern Salt Lake County and Utah County to the south; (2) the expansion of the existing light rail transit system, including the construction of new light rail transit lines to regions of high ridership demand; (3) the creation of a Bus Rapid Transit/Enhanced Bus system to provide high quality service where demand is high but a continuous right-of-way is not available or desirable; and, (4) the addition of more high-frequency bus corridors and more efficient and user friendly local bus transit.

Major transit improvements recommended by the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 include the construction of two commuter rail lines with one line extension, ten extensions of UTA's current TRAX light rail system and implementation of fifteen Bus Rapid Transit (BRT) or Enhanced Bus lines or line extensions to serve the growing transportation needs of the Region. Approximately 43 additional miles of light rail transit and 175 miles of Bus Rapid Transit or Enhanced Bus line would be added to the existing system. In addition, the 2030 LRP includes a 66 mile commuter rail line linking Weber, Davis, and Salt Lake Counties. Bus service is recommended to double over the next 27 years. This increase in the public transportation system will translate into greater service coverage, more frequent service, and longer hours of operation. Several corridors have been identified for priority or high-frequency bus transit service. The 2030 LRP also identifies needed transit hubs, intermodal centers, park-and ride lots, and needed paratransit service.

The objective of the Wasatch Urban Area Transit Plan For 2030 is to provide a framework for future transit improvements. Transit expands the variety of solutions to the region's growing travel demand. To be successful, a transit system in an area as large as the Wasatch Front needs to provide a range of transit types that trade-off the need for access against the need for speed in much the same way as the road system provides collectors with relatively slow speeds for neighborhood and local travel, arterials with higher speeds and less access for community travel, and freeways with little access but high speeds for regional travel.

The Wasatch Urban Area Long Range Transit Plan Update recommends expanding neighborhood or local bus service in the Wasatch Front Region to act as a transit collector. It recommends building ommunity services such as enhanced bus, bus rapid transit, and TRAX lines to provide for moderate speeds for longer trips, and it recommends building a commuter rail and commuter bus rapid transit with very limited access for regional travel. The 2030 LRP Update transit plan also recommends that the region construct a system of transit hubs to facilitate smooth transfers between transit types.

The recommendations in the 2030 LRP Update build upon the region's transit efficiencies; appropriately expanding neighborhood/local, community, and regional services as well as providing the transit hubs necessary to narrow the convenience gap between transit and the private auto. The Wasatch Urban Area Transit Plan objectives for 2030 are shown in Figure VI-1.

Figure VI-1

WASATCH FRONT URBAN AREA
TRANSIT PLAN OBJECTIVES FOR 2030 LRP UPDATE

Continue the growth in the buss and van pool service recommended in the 2002-2030 LRP, expanding revenue miles of bus service to about double that of the 2002-2003LRP recommended bus system revenue miles by 2030.

Develop high frequency local urban service grids in the core areas of the Wasatch Front Region. These core areas are generally inclusive of the area inside the I-215 belt route, along with parts of West Valley City and Midvale City in Salt Lake County, and most of Ogden City in Weber County.

Implement demand-tailored, hub-and-spoke bus service in areas outside the core, including commuter shuttles serving hubs or intermodal centers.

Continue to improve access to the bus and rail transit system for persons with disabilities. Also, provide expanded paratransit service for those who cannot access regular transit service.

Develop the following Light Rail Transit lines: Airport, Draper (to 14600 South), Daybreak planned development, Mid-Jordan, Salt Lake Intermodal Center, Sugarhouse, West Valley, 3500 South, and Traverse East.

Construct Bus Rapid lines in the 1300 East, Redwood Road, Mountain View Corridor, Fort Union, North Davis, South Davis, Washington Blvd., Ogden to Weber State University, and Salt Lake to Tooele.

Construct Enhanced Bus line on Foothill Blvd. and the Interstate 215 east belt route.

Use High Frequency Bus lines to complete a system of community services that is anchored by the LRT, BRT, and Enhanced Bus lines. A broadly spaced grid pattern is recommended for the Salt Lake Urbanized Area and a modified radial pattern is recommended for the Ogden/Layton Urbanized Area. Exceptions to the radial pattern in the Ogden/Layton Urbanized Area would be a Hill Air Force Base shuttle and a direct connection between Roy and the Weber State University main campus.

Build Commuter Rail from Salt Lake City to Ogden, from Ogden to 2700 North in Pleasant View, and from Salt Lake City south to the Utah County line.

Neighborhood/Local Transit System Improvements

All neighborhood/local services provide speeds comparable to local and collector streets with station spacing generally of about 1/4 mile or less. Neighborhood and local services recommended in the Long Range Plan Update include buses and shuttles in various operating configurations. Neighborhood and local bus service can provide greater access throughout the region than other transit modes and, in general, will better serve the needs of persons dependent on transit for transportation.

Currently, UTA provides higher frequency neighborhood and local bus service in two core areas of the region using a modified grid pattern. These core areas are the area within the I-215 belt route plus parts of West Valley and Midvale in Salt Lake County and most of Ogden City. In suburban areas, service is less frequent and generally focused on downtown Salt Lake City or Ogden. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommendations for future bus service are

discussed below for both area types. Frequency of service should be significantly increased in the core areas of the region. Service in these two areas should continue to utilize the modified grid pattern of service. These service improvements will provide greater accessibility using transit within the higher density parts of the region.

Bus service outside the core areas needs to be expanded to provide better access to the community and regional transit services. This service should be demand-tailored, possibly utilizing a hub-and-spoke system. In such a system, feeder bus service could be focused on transit hubs where connections could be made with bus rapid transit, enhanced bus, express service, other feeder routes, or rail service. In addition, shuttle service connecting major residential or commercial centers with light rail or commuter rail stations should be provided. Park-and-ride lots will play a greater role in suburban areas in providing access to bus service.

Overall, the number of service miles of bus service should double by the year 2030. Some of these new miles will be allocated to community and regional bus services such as bus rapid transit, enhanced bus, and high frequency bus. Nonetheless, a substantial amount of service should be available as local and neighborhood bus service. The actual allocation and structure of this regular service will be determined by UTA and local planners as it is implemented in the future.

Community Transit System Improvements

In addition to the neighborhood and local system expansions discussed above, an interlocking system of community services is recommended. All community services provide speeds comparable to minor arterials at station spacing of about one mile in the areas outside of the downtown.

Community services include light-rail, bus rapid transit, enhanced bus, and limited-stop high frequency bus lines. UTA's light-rail lines form the TRAX system. Some TRAX stations are provided with park and ride lots, some with locations for bus transfers and auto passenger pick-ups, and others are simply platforms provided with shelters, benches, ticket machines, and telephones. TRAX has been very successful in attracting people to transit and the businesses surrounding stations.

Bus rapid transit offers TRAX-like service with more flexibility. BRT stations have TRAX-like amenities. BRT vehicles are modern, alternative fuel buses that resemble trains and BRT travel times can be comparable to TRAX with use of bus lanes to bypass congested areas, signal priority, and the ability to use the right turn lane at a intersection to bypass stopped traffic (queue jumpers). Enhanced bus would likewise use TRAX-like stations, signal priority and queue jumpers but would not have specialized buses or bus lanes. As the region develops beyond the year 2030, some of these lines could be considered for upgrades potentially to light rail.

High Frequency corridors are unique only in their TRAX-like frequency. High frequency bus service may be modified existing bus routes or new routes and take the form of limited-stop or local service as well as peak only or all day service depending upon the nature of the surrounding land uses. A high frequency corridor grid should be formed in the Salt Lake Area and a modified radial pattern be formed in the Ogden/Layton Area. The actual structure, stop spacing, hours of operation, and stop and speed enhancements belonging to each of these corridors will be determined by UTA and local planners as it is implemented in the future.

Projects in the Previous Long Range Plan

The previous Long Range Transportation Plan for 2002-2030, recommended eleven community transit projects–five light rail lines and six transitways. A transitway is a broad term that covers all community transit system improvements, including light rail, bus rapid transit, and enhanced bus for corridors yet to be identified for specific transit technology. The Transit 2030 Committee has, since the last plan was adopted, identified the transit technologies representative of level of investment appropriate to these transitways. The community transit projects from the previous Long Range Plan are listed geographically as follows:

- Ogden to Weber State University - Bus Rapid Transit should be constructed from the Ogden Intermodal Center to the Harrison Blvd.- Washington Blvd., and U.S. Highway 89 intersection. Among the large destinations serviced by this line would be Downtown Ogden, Weber State University, and McKay-Dee Hospital. The current bus route that parallels this corridor is one of the highest ridership routes in the UTA Service Area.

- South Davis - Bus Rapid Transit should be constructed from the Farmington Commuter Rail Station to Downtown Salt Lake City. This line would serve the strong travel connections between southern Davis county and Salt Lake City. It could also distribute Commuter Rail Passengers alighting in Farmington throughout south Farmington City and Centerville City.

- Medical Center Line - Light rail completed in the fall of 2003 from Rice-Eccles Stadium at the University of Utah to the University of Utah Medical Center.

- Airport Line - Light rail should be extended from downtown Salt Lake City to the International Airport. The Final EIS for this corridor recommended a route following North Temple with a terminus at the Airport Terminal. BRT or duel BRT/LRT use should also be considered for this corridor because of its connections to the Redwood, Mountain View, and Tooele Bus Rapid Transit Lines.

- Sugarhouse Line - Light rail should be constructed from the TRAX line to about 1100 East. This line would service the transit friendly Sugarhouse District , parallel a portion of one of UTA's best performing routes, and provide a east/west connection with the West Valley Line.

- West Valley Line - Light rail should be constructed from the north-south TRAX line to the West Valley Intermodal Center. The Draft EIS for this corridor recommended a route from about 2300 South along Highway 201, south along the Jordan River, west along a canal right of way, south through the Decker Lake Industrial Park, west on 3100 South, and south on Constitution Boulevard to the Intermodal Center.

- 3500 South Line - Light rail should be constructed from the West Valley Intermodal Center to the Mountain View Corridor. The current bus route that services this corridor is one of the highest ridership routes in the UTA Service Area.

- Mid-Jordan Line - a light rail spur should be constructed along the existing rail corridor extending from the north-south TRAX line at about 6600 South through Midvale and West Jordan to the Bangerter Highway.

- Draper Line - Light rail should be extended from its current terminus at the 10000 South TRAX station to about 12300 South in Draper. This extension would likely use the existing rail corridor already owned by UTA, although other alignments could also be considered.

- Foothill Drive Line - Enhanced Bus should be constructed from the University of Utah to Interstate 80. This line would serve the strong travel connections between eastern edge of Salt Lake County and downtown Salt Lake City, and the University of Utah.

- Interstate 215 Line - Enhanced Bus should be implemented from Interstate 80 to Fort Union. This line would extend the Foothill Boulevard Line and therefore strengthen the service to the strong travel connections between the eastern edge of Salt Lake County and downtown Salt Lake City, the University of Utah, Research Park, Cottonwood Corporate Center, and the Fort Union employment center.

- Mountain View Line (North) - Bus Rapid Transit should be implemented from the Salt Lake International Airport to the West Ridge Industrial Park and the USANA Amphitheater. This line would serve the growing travel connections between western edge of Salt Lake County and downtown Salt Lake City, the Salt Lake International Airport, the International Center, and the West Ridge Industrial Park.

New Projects in 2030 LRP Update

The Long Range Plan Update also identifies the type of transit level of investment appropriate to ten new community corridors identified by the Transit 2030 Committee as follows:

- Washington Blvd. Line - Bus Rapid Transit should be constructed from 3100 North in North Ogden to Harrison Boulevard. The current bus route that services this corridor is one of the highest ridership routes in the UTA Service Area.

- North Davis (Ogden-Clearfield) - Bus Rapid Transit should be constructed from the Ogden Intermodal Center to the Clearfield Commuter Rail Station. The recommended alignment would include Wall Avenue, the Bamburger rail line, and 1000 East in Clearfield. Among the large destinations serviced by this line would be downtown Ogden, Ogden Hinkley Airport Industrial Park, and Hill Air Force Base.

- North Davis (Layton Segment) - Bus Rapid Transit should be constructed from the North Davis (Ogden-Clearfield segment) to the Layton Commuter Rail station primarily using Interstate 15 and its frontage road. Among the large destinations serviced by this line would be Hill Air Force Base, Weber State University Davis Campus, and Layton Hills Mall.

- North Davis (Kaysville Segment) - Bus Rapid Transit should be constructed from the Layton Commuter Rail Station to the Farmington Commuter Rail Station. A major destination on this line is Davis Applied Technology Center.

- 1300 East Line (North & South) - Bus Rapid Transit should be constructed from the University of Utah to 12300 South in Draper. Among the large destinations serviced by this line would be Downtown Salt

Lake City, the University of Utah, Westminster College, Sugarhouse Business District, Brickyard Plaza, Saint Marks Hospital, Fort Union employment center, Alta View Hospital and the Draper City Center.

- Fort Union Line - Bus Rapid Transit with the equivalent of about one mile of bus lane should be constructed from the Fashion Place West TRAX station to the Fort Union and Union Park area. Among the large destinations serviced by this line would be a proposed Intermodal Center at the confluence of the Mid-Jordan, North/South, and Commuter Rail Lines; Fashion Place Mall, and Fort Union employment area.

- Traverse East (north of 14600 So.) Line - Light Rail is currently recommended from 12300 South to 14600 South using the existing rail corridor already owned by UTA, although BRT should be considered as an alternative that would add connectivity from the Mountain View Corridor, the 1300 East Corridor, and potentially make the Utah County segment more viable.

- Traverse East (south of 14600 So.) Line - Light Rail is currently recommended from 14600 South to Utah County using the existing rail corridor already owned by UTA, although BRT should be considered as an alternative that potentially make the Utah County segment more viable.

- Redwood Line - Bus Rapid Transit should be constructed from North Temple to 14400 South. Among the large destinations serviced by this line would be the Downtown Salt Lake City, North Temple State Buildings, Decker Lake Industrial Park, Salt Lake Community College, and the West Jordan, South Jordan, Riverton, and Bluffdale city centers.

- Mountain View (South) Line - Bus Rapid Transit is currently recommended from about 4700 South to the Traverse East Line using Mountain View Corridor and then moving to Bangerter Highway near 13400 South, although other alignments and technologies should also be considered. This alignment would service the Daybreak planned development on Mountain View and the Intel campus, and a proposed Commuter Rail Station on the Bangerter Highway.

Regional Transit System Improvements

In addition to the neighborhood, local, and community system expansions discussed above, a regional system of transit services is recommended. All regional services provide speeds comparable to freeways at station spacing of about five miles in the areas outside of the downtown.

Regional services include commuter rail and bus rapid transit or express bus with significant freeway running. Commuter rail service can be Amtrak type trains or may be individually powered Diesel Motorized Units. The bus rapid transit offers commuter rail-like service with more flexibility. Bus rapid transit stations have rail-like amenities. BRT vehicles are modern and their alignments can have bus lanes to bypass congested areas, signal priority, and the ability to use the right turn lane at a intersection to bypass stopped traffic (queue jumpers).

Projects in the 2002-2030 LRP

The previous 2002-2030 Long Range Transportation Plan recommended two regional transit projects whose technology was yet to be determined. Since then a the region has settled upon commuter rail. The regional transit projects from the previous 2002-2030 LRP are listed geographically as follows:

- Ogden to Salt Lake - Commuter Rail should be constructed from the Ogden Intermodal Center to the Salt Lake Intermodal Center. The Environmental Assessment underway for this corridor appears to be recommending using single line with periodic sidings in a combination of land acquired from the Union Pacific mainline and I-15. Cities anticipated to have stations include Ogden, Roy, Clearfield, Layton, Farmington, Woods Cross, and Salt Lake City.

- Salt Lake to Utah County - Commuter Rail should be constructed from the Salt Lake Intermodal Center to the Utah County line. Recommendations are for the use of the land acquired from the Union Pacific mainline. Cities in Salt Lake County anticipated to have stations include Murray or Midvale, Sandy or South Jordan, Draper or Bluffdale.

New Projects in 2004-2030 LRP Update

The Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030 also identifies the type of transit representative of level of investment appropriate to two new regional corridors identified by the Transit 2030 Committee as follows:

- North Weber - Commuter Rail should be constructed from about 2700 North to the Ogden Intermodal Center. The Environmental Assessment underway for this corridor appears to be recommending using the shared track rights purchased by the UTA from the Union Pacific Railroad. Anticipated stations would be the Business Depot Ogden and 2700 North in Pleasant View City.

- Tooele Line - Bus Rapid Transit should be constructed from downtown Salt Lake City to Tooele City using, among other streets, North Temple, 5600 West, Highway 201, Interstate 80, and SR 36. This alignment would service downtown Salt Lake City, the North Temple state offices, Salt Lake International Airport, the International Center, Magna, and Tooele.

Transit System Connectivity Improvements

As discussed above, the Wasatch Urban Area Long Range Transit Plan Update for 2030 recommends a variety of transit services serving different types of travel in much the same way as freeways, arterials, collectors, and local streets serve different types of travel for the auto traveler. However, more critical to the transit traveler than for the auto traveler are efficient transitions from one system to another. Smooth transitions are facilitated in transit through intermodal centers, transit hubs, and intercept park-and-ride lots. When fully implemented, transit riders will be able to identify specific facilities where they can make quick and easy transfers from one type of transit mode, such as commuter rail, to another. Transit hubs, intermodal centers, and park-and-ride lots allow for greater flexibility of destination and increased convenience to system patrons.

Transit Hubs: Identified transit hubs are specifically designed to connect regional and community transit services with trips originating in areas with lower trip densities and with collector and local transit services. Transit hubs allow passengers timed transfers to express or limited stop transit not otherwise directly available to them. Unlike park-and-ride lots or other transit connections, local buses serving each hub would be scheduled to depart from the hub when all of the scheduled buses have arrived. Logical places for transit hubs are commuter rail stations, light rail stations, large employment centers, and major commercial nodes. Potential transit hub locations in the region include each of the commuter rail stations as well as Weber State University, North Temple / International Airport, University of Utah, West Valley City, West Jordan, and the Union Park area.

Intermodal Centers: The primary function of intermodal centers is to bring different transportation modes together in one location, allowing greater flexibility and convenience in transferring from one transit system to another. In this way intermodal centers perform many of the same functions as a transit hub. However, these transportation modes may also include Amtrak, interstate bus, taxi cabs, and freight delivery services such as UPS. Intermodal centers also frequently provide for passenger and neighborhood type commercial services such as dry cleaning, newspaper stands, and food and beverage establishments. Locations for intermodal centers are the Salt Lake City Gateway area, West Valley City, the Murray City/Midvale area, and downtown Ogden. The introduction of intermodal centers in these locations will help enhance individual mode choice and travel flexibility.

Park-And-Ride System: The recommended park-and-ride system would locate parking lots along commuter rail, light rail, bus rapid transit, and enhanced bus lines. It also provides for four park-and-ride lots in locations unassociated with community transit lines. Park-and-ride lots allow transit riders to park their automobiles and commute to their destination. Other potential park-and-ride lots could be located at freeway interchanges to allow transfers for carpools, vanpools, and express bus service, or in outlying areas providing access to service where densities do not justify regular transit coverage.

Paratransit System

As the population of senior citizens and persons with disabilities grows, the need to provide accessible transit to serve their need will grow. All future transit facilities and vehicles should be accessible. Serious consideration should be given to low floor vehicles on bus rapid transit lines to further facilitate the mobility and independence of people with disabilities. While these services and facilities will meet the needs of persons with mobility difficulties, others will need special services.

The 2030 Long Range Transportation Plan Update recommends that UTA expand the curb-to-curb paratransit service in Salt Lake, Davis, and Weber Counties to meet increasing needs. UTA's paratransit service should serve the same area as regular transit, including similar hours of operation. As much as possible, this special service should take advantage of the accessible bus and rail systems recommended in the 2030 Long Range Transportation Plan Update. The Utah Transit Authority is a public transit system and cannot provide all of the customized (emergency) transportation needs of persons with severe medical conditions or disabilities. Consequently, UTA should continue to coordinate its efforts closely with those of other public and private non-profit agencies to address the specific needs of people with disabilities.

These other agencies are able to generate funding through donations and grants from public and private sources that are not readily available to the UTA, and they are much more familiar with their client base. Many of the vehicles utilized by the private non-profit agencies have been obtained through the Federal Transit Administration's Section 5310 Program and represent an important component of the Wasatch Front Region's specialized transit vehicle inventory. The county based programs for the elderly include significant transportation components that are also important elements of the specialized transportation system. UTA needs to work with persons requiring paratransit services to design a system that is as efficient and effective as possible.

2030 Transit Plan

As part of the 2030 LRP Update, the WFRC developed a summary project list, along with approximate cost for recommended transit improvements for the next 27 years. The list provides details concerning the types of transit improvements, their general location, and suggested phasing for each project. Recommended regional transit improvements over the next 27 years are shown in Table VI-4, the "Wasatch Front Urban Area 27-Year Transit Facility List".

Table VI-4

WASATCH FRONT URBAN AREA
27-YEAR TRANSIT FACILITY LIST*

Description			Phase
Project	**Type Improvement**	**General Location(s)**	
ALL COUNTIES			
Salt Lake - Provo Commuter Rail	New Construction	Current Union Pacific mainline ROW	1
Ogden-Salt Lake Commuter Rail	New Construction	Current Union Pacific mainline ROW	1
Park-and-Ride lots	New Construction	Locations as needed region wide	1
WEBER COUNTY			
North Weber Commuter Rail	New Construction	Current Union Pacific mainline	1
Washington Bus Rapid Transit	New Construction	3100 No. to about Harrison Blvd.	1
Ogden/WSU Bus Rapid Transit	New Construction	24th Street & Harrison Blvd. to Wash. Blvd.	1
DAVIS COUNTY			
North Davis (Ogden-Clearfield) Bus Rapid Transit	New Construction	Ogden Intermodal Center to Clearfield Commuter Rail Station	2
North Davis (Layton) Bus Rapid Transit	New Construction	Clearfield Commuter Rail Station to Layton Commuter Rail Station	2
North Davis (Kaysville) Bus Rapid Transit	New Construction	Layton Commuter Rail Station to Farmington Commuter Rail Station	2
South Davis (North of Parrish Ln.) Bus Rapid Transit	New Construction	Farmington Commuter Rail Station to Parrish Lane	2
South Davis (South of Parrish Ln.) Bus Rapid Transit	New Construction	Parrish Lane to downtown Salt Lake City	1
Layton Transit Hub	Upgrade	Layton Commuter Rail Station	1
Woods Cross Transit Hub	Upgrade	Near 500 South and I-15	1

* The construction cost of additional maintenance facilities beyond those currently needed operating and maintenance facilities as shown above, are accounted for in the capital costs of each individual project and bus fleet expansion on a per new vehicle basis.

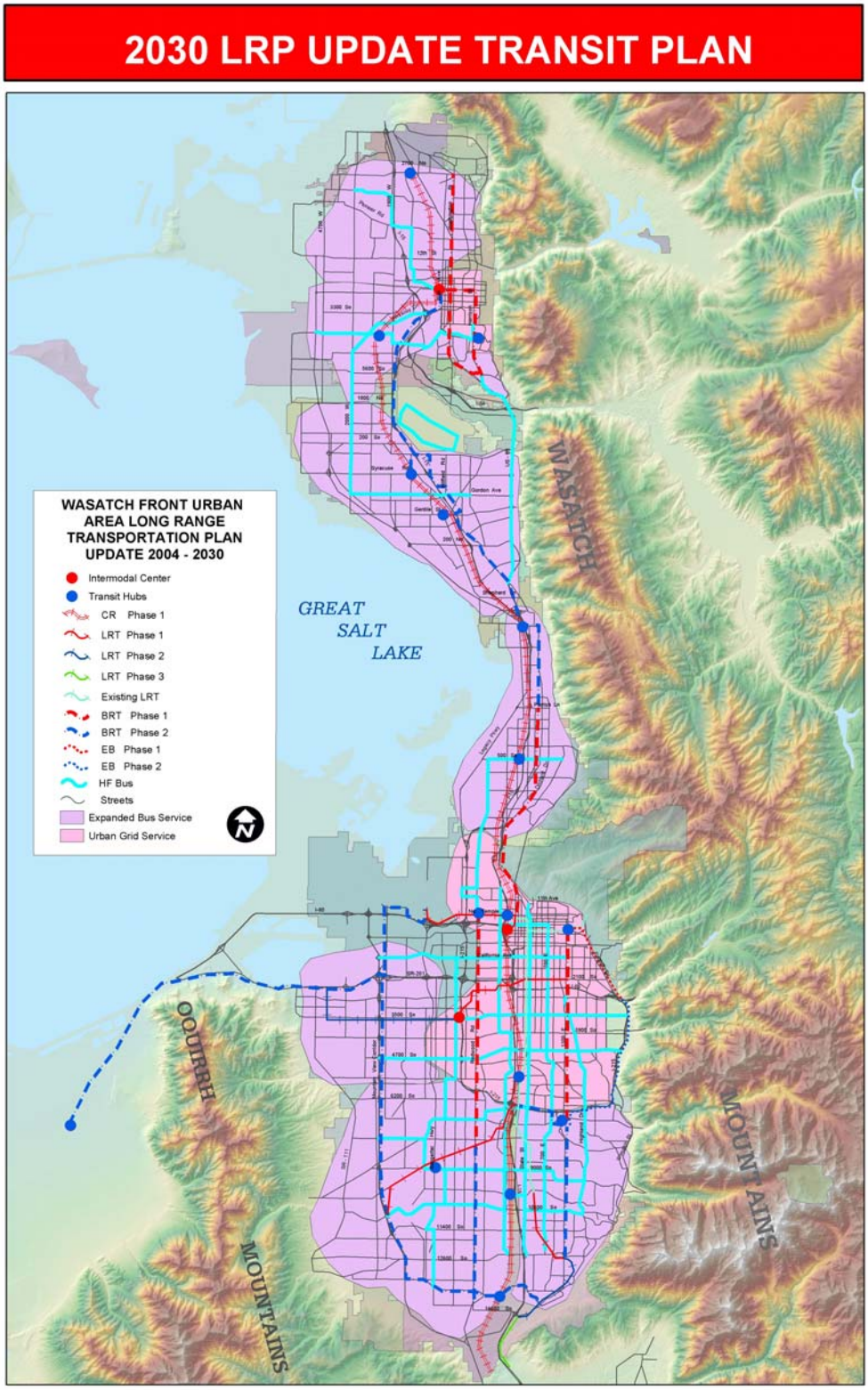
Table VI-4 (Continued)

WASATCH FRONT URBAN AREA
27-YEAR TRANSIT FACILITY LIST*

Description			Phase
Project	Type Improvement	General Location(s)	
SALT LAKE COUNTY			
Airport LRT and/or BRT Line	New Construction	Downtown Salt Lake City to Salt Lake International Airport	1
Tooele BRT	New Construction	Downtown Salt Lake City to Tooele City	2
Sugarhouse LRT Line	New Construction	Sandy LRT Line at about 2300 So. to about 1100 East	1
West Valley LRT Line	New Construction	Sandy LRT Line at about 2300 So. to West Valley Intermodal Ctr.	1
3500 South LRT Line	New Construction	West Valley Intermodal Ctr. to 8400 W. to Hwy. 201	2
Fort Union BRT Line	New Construction	Sandy LRT Line at about Fashion Place West to Fort Union	2
Mid Jordan LRT	New Construction	Sandy LRT Line at about Fashion Place West to Bangerter Hwy.	1
Daybreak LRT	New Construction	Bangerter Hwy to the Daybreak development	1
Traverse East (North of 14600 So) LRT and/or BRT	New Construction	Draper LRT Line at 12300 So. to 14600 So.	2
Traverse East (South of 14600 So) LRT and/or BRT	New Construction	14600 So. to Utah County	3
Sandy LRT Line Improvements	Upgrade	Main Street SLC to 10000 South	1
Draper LRT Line	New Construction	10000 South to 12300 South	1
1300 East (North) BRT Line	New Construction	University of Utah to Fort Union	1
1300 East (South) BRT Line	New Construction	Fort Union to about 12300 South	2
Redwood (North) BRT Line	New Construction	North Temple to Mid-Jordan Line (about 8000 South)	1
Redwood (South) BRT Line	New Construction	Mid-Jordan Line (about 8000 South) to 14400 South	2
Foothill Drive Enhanced Bus	New Construction	University of Utah to Interstate 80	1
Interstate 215 East Belt Enhanced Bus	New Construction	Interstate 80 to Fort Union	2
Mountain View Corridor (North) BRT Line	New Construction	S.L. International Airport to Mt. View Corridor to 4700 So.	2
Mountain View Corridor (South) BRT Line	New Construction	4700 So. to 13400 So. to Bangerter Hwy. to Traverse E. Line	2
Gateway Intermodal Center	New Construction	Near 600 West 200 South	1
Mid-Valley Intermodal Center	Upgrade	LRT / Commuter Rail Station	1
West Valley Intermodal Center	New Construction	Valley Fair Mall	1
University of Utah Transit Hub	New Construction	LRT Station	1
North Temple Transit Hub	New Construction	LRT Station near Redwood Road	1
Union Park Transit Hub	New Construction	Union Park Area	1
West Jordan Transit Hub	New Construction	Near SL Community College Jordan Campus	1
Sandy/South Jordan Transit Hub	Upgrade	Sandy Civic Center	1
Required Operating and Maintenance Facilities	Upgrade and New Construction	To Be Determined	1

* The construction cost of additional maintenance facilities beyond those currently needed operating and maintenance facilities as shown above, are accounted for in the capital costs of each individual project and bus fleet expansion on a per new vehicle basis.

Map VI-5


2030 LRP UPDATE TRANSIT PLAN
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Intermodal Center
Transit Hubs
CR Phase 1
LRT Phase 1
LRT Phase 2
LRT Phase 3
Existing LRT
BRT Phase 1
BRT Phase 2
EB Phase 1
EB Phase 2
HF Bus
Streets
Expanded Bus Service
Urban Grid Service
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

2030 Transit Plan Map

The transit portion of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 is shown as Map VI-5. This map illustrates the general transit network configuration including corridors, service areas by local service type, and transit hub and intermodal center system. Corridors are identified as CR for commuter rail, LRT for light rail transit, BRT for bus rapid transit, EB for enhanced bus, and HF Bus for high frequency bus. The transit plan map illustrates each of the transit corridors by phase as well as representative technology.

ILLUSTRATIVE PROJECTS FOR 2030

The Transportation Equity Act for the 21st Century allows for illustrative, or non-funded, projects and facilities to be included as part of a regional long range transportation plan provided viable future funding sources can be identified. Such illustrative highway projects of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 are shown in Table VI-5.

Table VI-5

WASATCH FRONT URBAN AREA
NON-FUNDED ILLUSTRATIVE HIGHWAY FACILITIES

STREET	FROM	TO	TYPE	CLASSIFICATION
I-215	I-15 (North Salt Lake)	I-80 (West)	Widening	Freeway
I-215	300 East	2000 East	Widening	Freeway
SR-201	Western Transportation	I-80	Widening	Freeway
Foothill Drive	1700 South	I-80	Widening	P. Arterial
I-15	Hillfield Rd. (SR-232)	US-89	Widening	Freeway
Legacy Parkway	5500 South (Roy)	1200 South	New Construction	P. Arterial

Illustrative transit projects of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 would extend Regional Commuter Rail to the Box Elder County Line, would construct light rail transit on each of the transitway lines which are currently part of the 2030 LRP Update, and on selected bus corridors currently recommended in the Plan. Such illustrative transit projects of the 2030LRP Update are shown in Table VI-6.

Table VI-6

WASATCH FRONT URBAN AREA
NON-FUNDED ILLUSTRATIVE TRANSIT FACILITIES

LINE	FROM	TO
Roy/Weber State	High Frequency Bus	Bus Rapid Transit
4500 South/4700 South	High Frequency Bus	Bus Rapid Transit
Fort Union	Bus Rapid Transit	Light Rail Transit

Table VI-6 (Continued)

WASATCH FRONT URBAN AREA
NON-FUNDED ILLUSTRATIVE TRANSIT FACILITIES

LINE	FROM	TO
10400 South / 10600 South	Bus Rapid Transit	Light Rail Transit
Foothill Drive / I-215 East Belt	Enhanced Bus	Bus Rapid Transit
State Street	High Frequency Bus	Bus Rapid Transit
Union Pacific Railroad	Realignment of Grant Tower section in downtown Salt Lake City	

METROPOLITAN AIRPORTS SYSTEM

The Salt Lake City Metropolitan Airports System covers approximately 14,200 square miles, encompassing eight counties and approximately 18 percent of the land area and 82 percent of the population in the State. The System is composed of 13 airports that are home to 83 percent of the active pilots and 74 percent of the State's General Aviation airplanes.

Salt Lake City International Airport (SLCIA) is the heart of the Metropolitan Airports System. In 2001 the airport served 18.8 million passengers ranking the airport the 24th busiest in the nation and 38th busiest in the world. Delta Airlines and its regional partner Skywest airlines operate approximately 40 percent of the scheduled daily flights from the airport. Flying hours by military organizations based in the Metropolitan Area have averaged about 40,000 flight hours/year since 1985. Military flying units are based at Hill AFB, SLCIA and Salt Lake City No.2 Airport.

Since 1978, there has been a precipitous national decline in General Aviation (GA) manufacturing. Despite this trend, the numbers of active GA airplanes and pilots have remained constant, and flight hours flown by the GA fleet have actually increased. General Aviation activity along the Wasatch Front has paralleled the national trends. During the previous 20 years based airplanes at the 13 System airports reached their lowest point in 1993. Since then number of based aircraft in the system has increased at an average of slightly over 1.8 percent annually within the 13 System airports.

The Wasatch Front Regional Council prepared the 2003 Metropolitan Airports System Plan (MASP) under the Federal Aviation Administration Planning Grant Program. The MASP is a component of the Wasatch Front Regional Council's Long Range Transportation Plan. This Plan provides for the orderly and timely development of a system of airports to meet the present and future needs of the Metropolitan Area. It relates aviation to the multimodal transportation needs of the region and provides the framework for individual airport development.

The plan has three main goals:

- Develop a system of airports that meets the needs of the Wasatch Front area.

- Provide general aviation facilities that are both convenient and accessible to business and non-business general aviation aircraft owners and operators.

- Identify major existing or projected shortfalls within the system of airports, as well as means by which they can be corrected.

Aviation Forecasts

The 2003 Metropolitan Airports System Plan (2003 MASP) forecasts are derived from socio-economic forecasts prepared by the Governors Office of Planning and Budget; Federal Aviation Administration (FAA) national and state forecasts, and from individual airport forecasts contained in airport master plans prepared by aviation consultants. Factors that influence the demand for aviation activity at an airport include the socioeconomic characteristics of the air service area, the level of service and facilities provided at the airport versus competing airports in the region, and its location with respect to demand generators for originating or transient users.

The Salt Lake City International Airport will continue as the predominate airport in the System. According to the most recent FAA Terminal Area Forecast, total operations at SLCIA are expected to grow 15 percent between the years 2003-2010, and could reach 570,978 by 2020. The number of enplaned revenue passengers is expected to increase by almost 18 percent between 2003-2010, and may exceed 14,000,000 in 2020. Military operations in the Metropolitan Area are very likely to continue at about the same, or slightly higher, rate for the foreseeable future.

The General Aviation forecasts in the 2030 MASP are based on FAA national forecasts rather than FAA state or local forecasts. The latter do not have sufficient statistical accuracy to produce meaningful results. National forecasts indicate slow but steady growth of the GA fleet, particularly the Turbojet segment. The number of active general aviation aircraft is expected to increase from 211,040 aircraft in 2002 to 229,490 in 2014, and then expand to 249,070 by 2030. This represents an average annual growth of 0.7 percent during the immediate forecast period and 0.5 percent over the extended forecast period. The piston engine portion of the general aviation fixed-wing aircraft fleet is forecast to increase by 0.2 percent during both the immediate and extended forecast periods. Fixed-wing turbine powered general aviation aircraft are expected to increase 2.8 percent annually between 2003 and 2014, and by 2.2 percent during the 2015 to 2030 period. The higher growth rate for the turbine portion of the fleet is based on the expectations of a greater business and corporate use of general aviation aircraft. This will occur as the U.S. economy improves and businesses look for alternatives to scheduled air service and airport security hassles.

Growth in general aviation flight hours is forecast to increase at a faster rate than the active fleet. General aviation activity is very sensitive to changes in fuel price and variations in the rate of economic growth. Based on the assumptions of sustained economic growth, relative stability in fuel prices, and the continued growth in fractional ownership programs and corporate flying, it is expected that aircraft utilization rates will return to or surpass the higher levels experienced prior to the 1990-1991 economic recession. Considering this, general aviation flight hours are forecast to increase from 29.5 million in 2002 to 35.3 million in 2014, and to 43.0 million in 2030. This represents a 1.5 and 1.2 percent annual growth, respectively. The positive forecasts for general aviation fleet and flight hours are heavily dependent on the assumptions related to continued economic growth and price stability. However,

equally important to future growth are continued investment in new aircraft technology and production by general aviation manufacturers and the success of industry programs to foster growth in the number of student pilots. If the industry falters in its efforts to stimulate the production of new general aviation products and services and the growth in the number of student pilots, the outlook for the active fleet, hours flown, and general aviation activity could be considerably lower than the current projections.

The total national pilot population is forecast to increase from 661,358 in 2002 to 935,305 by the year 2030, an average annual growth rate of 1.2 percent over the 28-year forecast period. Much of the growth results from the continuing demand for airline transport pilots. Additionally, recent industry program initiatives designed to promote the benefits of general aviation flying to businesses and the public, to stimulate growth in the number of new student pilots, and to develop an improved flight training infrastructure are also expected to contribute to the growth in the pilot population. During this same time period, the number of instrument rated pilots is expected to increase from 317,389 to 469,800. The percentage of instrument rated pilots increases from 48 percent in 2002 to 50.2 percent in 2030. Those owning GA airplanes are more likely than ever to operate them. However, significantly increased fuel costs could depress this last remaining positive aspect of General Aviation flying.

The State and Metropolitan General Aviation forecasts assume that growth in GA activity will be paced by favorable socio-economic factors, and that there will be a steady migration of aviators and airplanes to the State and, especially, the Metropolitan Area. The Plan forecasts that approximately 92 percent of the registered airplanes in the Metropolitan Area will remain active and that utilization of these airplanes will exceed the national average out to the planning horizon. The WFRC also forecasts a slight increase in the percentage of Utah active airplanes based in the Metropolitan Area.

The 2003-2020 forecast predicts a 1.84 percent average annual growth for System GA operations, with growth in itinerant operations slightly exceeding growth in local operations, particularly after the year 2005. Average growth rates for System GA airports vary from 2.83 percent at the Provo Airport to 0.74% at Salt Lake City No. 2 Airport. Growth at the predominate System GA airports (SLCIA, Heber, Ogden and Provo) will increase approximately 2 percent per year.

System-wide demand for General Aviation basing will grow proportionately with the number of registered airplanes. Current System-wide demand for basing, which is only 60 percent of capacity, will increase to 75 percent of capacity by 2015 if no new facilities are built. Some high growth airports will require additional basing capacity to meet local demand. Most System airports will experience increased demand for transient facilities, such as ramp/hangar space and refueling and maintenance services.

Protection of GA airports in the System from residential encroachment and incompatible use of adjacent land will be an important topic in the future. Many key airports in the System are threatened, and the Utah Airport Zoning Act merely encourages protection of these valuable community assets. For more detail, see the MASP report.

Airspace, Air Traffic Control and Flight Operations

Proper management of airspace is critical to future growth and airport development. Since the Metropolitan Area is essentially surrounded by mountains, much of the available airspace is controlled, restricted or reserved for special use. This is not a problem for the air carriers or commuter airlines,

corporate flying or military tactical and transport operations. It does however, limit the airspace available for VFR flying conducted by most GA pilots and military helicopters. Air traffic control in the large volume of controlled, restricted and special use airspace in the Region is very complex. The FAA and the military exercise this control through a network of closely integrated agencies and sub-agencies. These are supported by an array of communications and navigation facilities located throughout the Region.

Flight operations throughout the Region conform to national and international standards established by the FAA. Some local procedures have been modified by formal agreement between the controlling and using organizations. Flights are conducted using Instrument Flight Rules (IFR) or Visual Flight Rules (VFR) as appropriate to the type of airplane and equipment, pilot rating and purpose of flight. VFR flights near (within 30 nautical miles) of SLCIA are subject to special rules and procedures. All operations within the Salt Lake City Terminal Control Area, which is controlled airspace, require positive control for traffic separation. VFR pilots who choose not to enter the Class B airspace can still operate from all airports within the system except SLCIA; however, the amount of uncontrolled airspace available for these operations is limited. Several initiatives to improve service to VFR pilots are under consideration. These include modifications to the Class B airspace to provide more uncontrolled airspace. Proposed improvements include raising the Class B airspace over the mountainous terrain east of Salt Lake City, and expansion of uncontrolled airspace around the Bountiful Skypark Airport and Salt Lake City Airport No. 2. It is expected that these improvements will enhance safety and access to these airports while having little or no effect on other airports in the Region.

Connections with the Surface Transportation System

The access to the airports in the Metropolitan area provided by the surface transportation system is generally good. SLCIA is served by I-80 for commercial flights and by I-215 for general aviation activities. UTA also operates local bus service to the airport. The Long Range Transportation Plan Update recommends that UTA's light rail transit system be expanded to connect the airport with downtown Salt lake City and the rest of the light rail system.

The General Aviation airports in the region are located along major arterial streets. The Plan recommendations include many improvements to these streets which should improve access to these airports. Among these projects are the 7800 South widening near Salt Lake Airport Number 2, the widening of Redwood Road and 500 South and the construction of the Legacy Parkway near Skypark Airport, and improvements to Hinckley Drive and I-15 near the Ogden Municipal Airport.

Besides being an airport facility, Hill Air Force Base is a major employer in the region. Many of the roadways around the Base have been improved to provide good access to the employees and others traveling to and from the Base. Future improvements included in the Long Range Plan that will impact HAFB include upgrades to US-89 and the widening of I-15. In addition, the commuter rail line planned to connect Weber and Davis Counties with Salt Lake City and eventually Utah County will be able to serve HAFB. Shuttle connections between the Base and stations in Clearfield and Layton will enhance transit service to the Base. Additional support information for the Metropolitan Airport System can be found in Appendix F.

INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent Transportation System (ITS) projects take advantage of modern technology to better manage the transportation system. ITS applications include traffic signal coordination, freeway traffic monitoring and management, automated transit vehicle location and passenger counting, incident management, ramp metering and strategies to monitor and manage commercial vehicle operations. These applications allow the region to more efficiently operate the transportation system and to better maintain effective signal timing plans, and bus scheduling.

The Wasatch Front Regional Council, through its planning efforts, has consistently encouraged the implementation of ITS strategies. Signal coordination efforts have been underway in Salt Lake City and Salt Lake County since the early 1980's and in Ogden City for the past several years. The initial deployment of Utah CommuterLink, Utah's ITS, was completed in conjunction with the reconstruction of I-15 in Salt Lake County. The initial system consists of a traffic operations center and fiberoptic backbone to over 600 signals and scores of cameras, variable message signs, and traffic monitoring stations, as well as several ramp meters along I-15. Salt Lake City and Salt Lake County operate satellite traffic control centers. There are also connections to FHWA, UTA, and other transportation entities. The Utah Transit Authority has electronic time of arrival signs at rail stations and has begun deployment of automated passenger counters as well as several other ITS elements. The initial deployment was a joint effort primarily made by the Utah Department of Transportation, Salt Lake City, UTA, and Salt Lake County. While not replacing the need for additional roadway capacity, expected annual benefits have been estimated at $80 - $200 million. The system is projected to reduce delay by nearly 20 percent.

In cooperation with these entities, as well as other local jurisdictions, public safety agencies and several other stakeholders, the WFRC conducted a *Regional ITS Architecture Study* in 1999 and 2000. A regional architecture consistent with the National Intelligent Transportation System Architecture was developed, as was a process to ensure coordination and consistency. Additionally, a deployment plan was completed outlining 28 high-level ITS projects for the Wasatch Front Area. These projects are recommended as part of the 2030 Plan Update. The ITS deployment plan also includes the expansion of Utah CommuterLink from Salt Lake County into Davis and Weber Counties and other areas, some of which has already begun. Stakeholders hope that most of 28 high-level projects will be implemented within the next 10 years. Changes in Intelligent Transportation System technologies make it difficult to plan deployments for longer time periods. Additional information regarding ITS planning can be found in UDOT's Statewide ITS Deployment Plan.

ITS Project Summary

A list of ITS Advance Traffic Management System (ATMS), Advance Public Transportation System (ATPS), Emergency Management (EM), and Commercial Vehicle Operations (CVO) projects is shown in Table VI-7. The list below provides a description of ATMS projects proposed under the 2030 LRP Update, along with their current priority and estimated cost. The estimated cost for each ATMS project reflects the capital cost for deployment of the project. The status varies for different projects in terms of programmed funding. This plan is intended to serve the long term and as a result it is not expected that the plan be fully funded up front. Rather, it is anticipated that projects will be funded as resources become available. Maps VI-6, VI-7, and VI-8 show select ATMS expansion projects by area. Appendix G contains a more detailed description of the ATMS projects listed in Table VI-7.

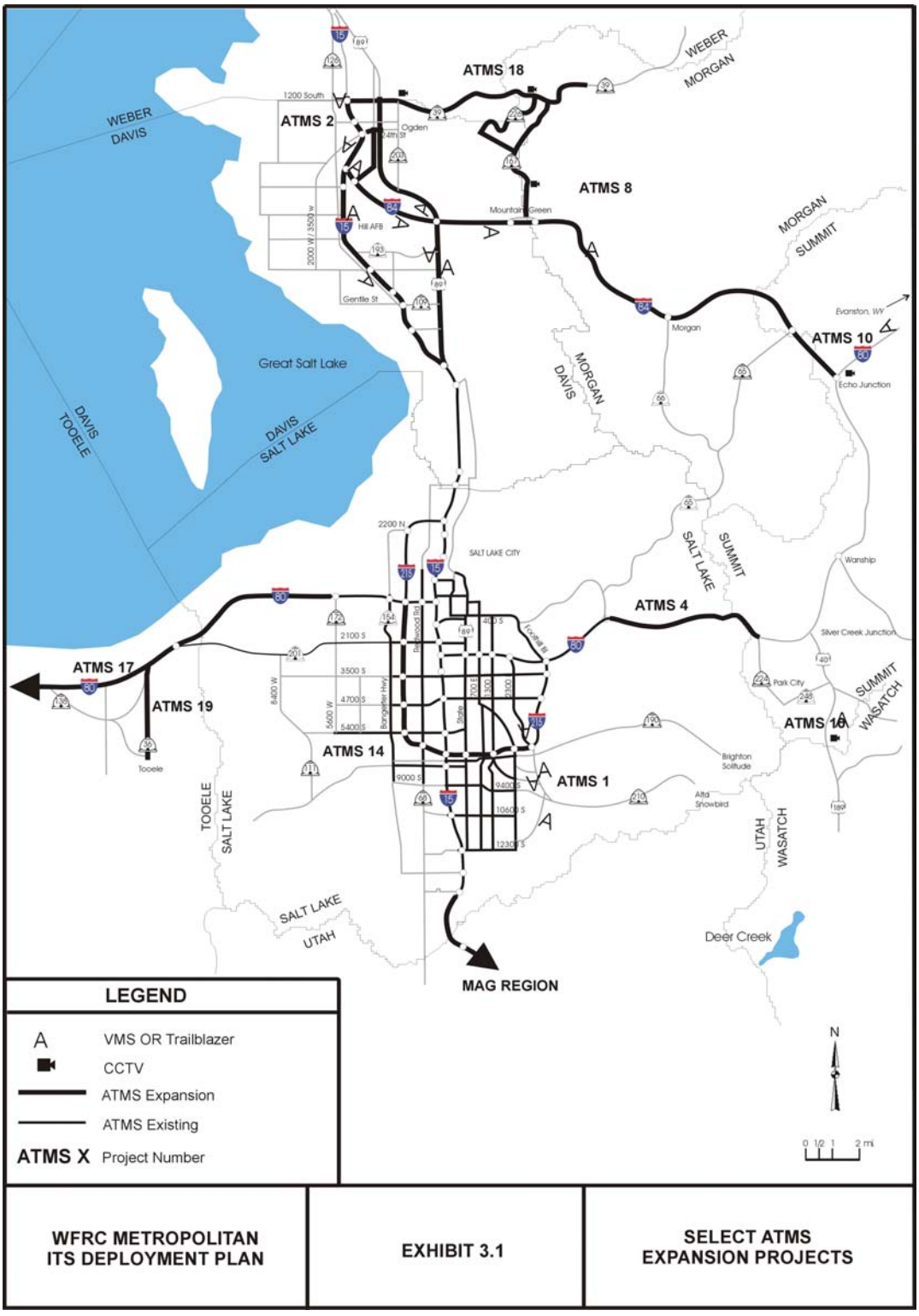
Table VI-7

WASATCH FRONT URBAN AREA
ITS PROJECTS AND ESTIMATED COST SUMMARY

PROJECT NUMBER	PROJECT TITLE	PRIORITY	ESTIMATED COSTS
ATMS – 1	Canyon Traveler Information/Parking Management for Park-And-Ride Lots	High	$4,400,000
ATMS – 2	I-15 ATMS Expansion	High	$6,330,000
ATMS – 3	Weber/Davis Surface Street ATMS Expansion	High	$8,727,250
ATMS – 4	Prototype Automated Red Light Detection	High	$450,000
ATMS – 5	Salt Lake Valley Surface Street ATMS Expansion	High	$7,700,000
ATMS – 6	Freeway Incident Management	High	$3,600,000
ATMS – 7	Agency Inter-ties	High	$503,000
ATMS – 8	I-84 East ATMS Expansion	Medium	$5,900,000
ATMS – 9	ATMS Mobile Access Study	Medium	$75,000
ATMS – 10	Spot ATMS Expansion East	Medium	$700,000
ATMS – 11	Automatic Lane Control Facility	Medium	$3,000,000
ATMS – 12	Railroad Crossing Upgrade	Medium	$450,000
ATMS – 13	Portable VMS for Incident Management and Special Event Support	Medium	$600,000
ATMS – 14	Ramp Metering Deployment on I-215	Medium	$935,000
ATMS – 15	Surface Street Incident Management	Medium	$1,476,000
ATMS – 16	TOC System Software Enhancements	Medium	$5,000,000
ATMS – 17	I-80 West ATMS Expansion	Low	$2,615,000
ATMS – 18	Spot ATMS Expansion North	Low	$815,000
ATMS – 19	Tooele Valley ATMS	Low	$1,263,750
APTS – 20	UTA Radio Communications Upgrade	High	$3,500,000
APTS – 21	Bus/Rail Integration	High	$4,000,000
APTS – 22	Electronic Payment Technology	High	$6,500,000
APTS – 23	Automated Vehicle Location for Buses	Medium	$15,000,000
APTS – 24	Transit Passenger Information	Medium	$500,000
APTS – 25	Signal Priority for Buses	Low	$2,000,000
ATIS – 26	Traveler Information Systems	High	$1,100,000
EM – 27	Emergency Services Communications and Coordination	Medium	$2,000,000
CV0 – 28	CVISN	High	$1,500,000
PROGRAM SUBTOTAL			**$90,640,000**

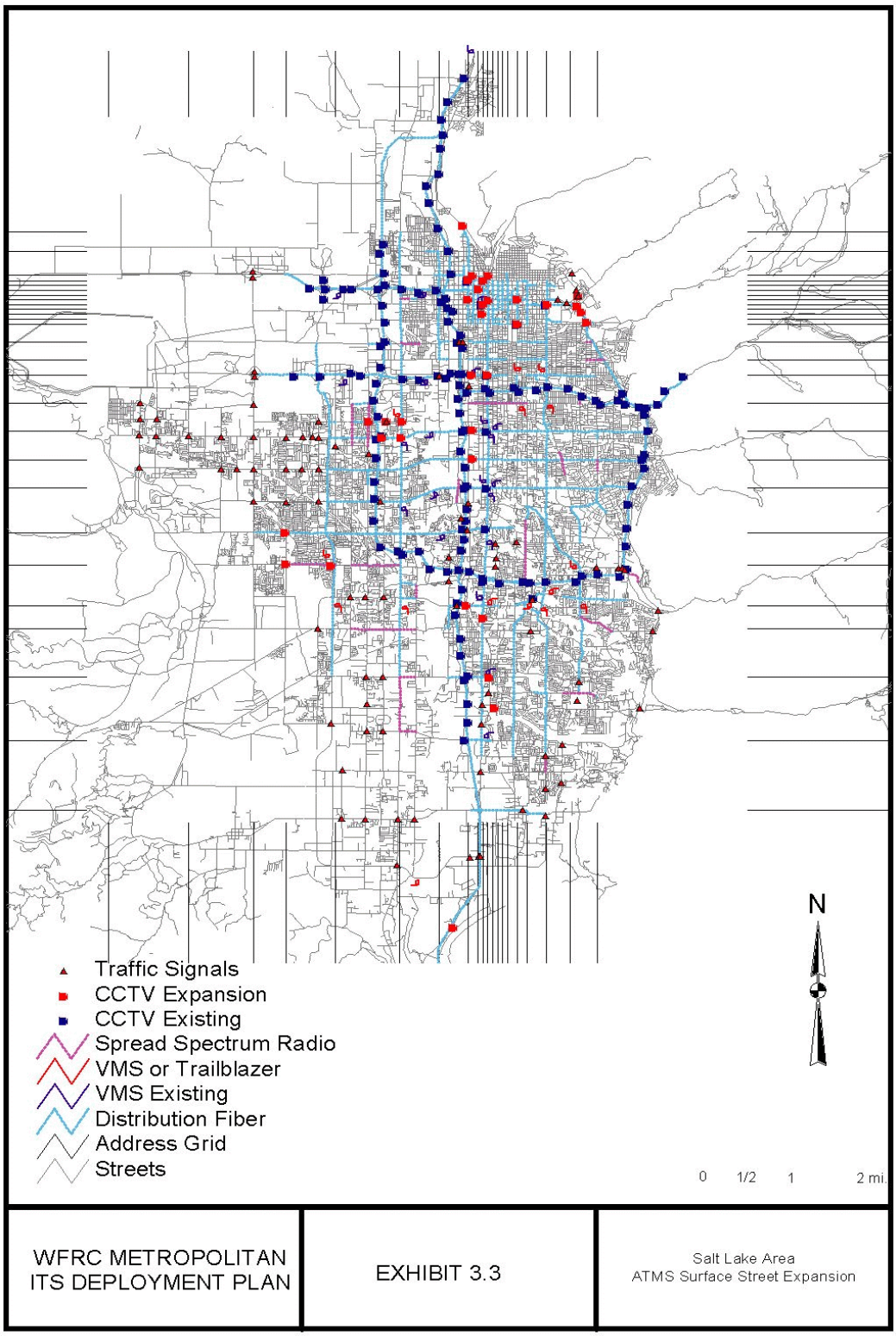
Map VI-6

WASATCH FRONT URBAN AREA
SELECT ATMS EXPANSION PROJECTS



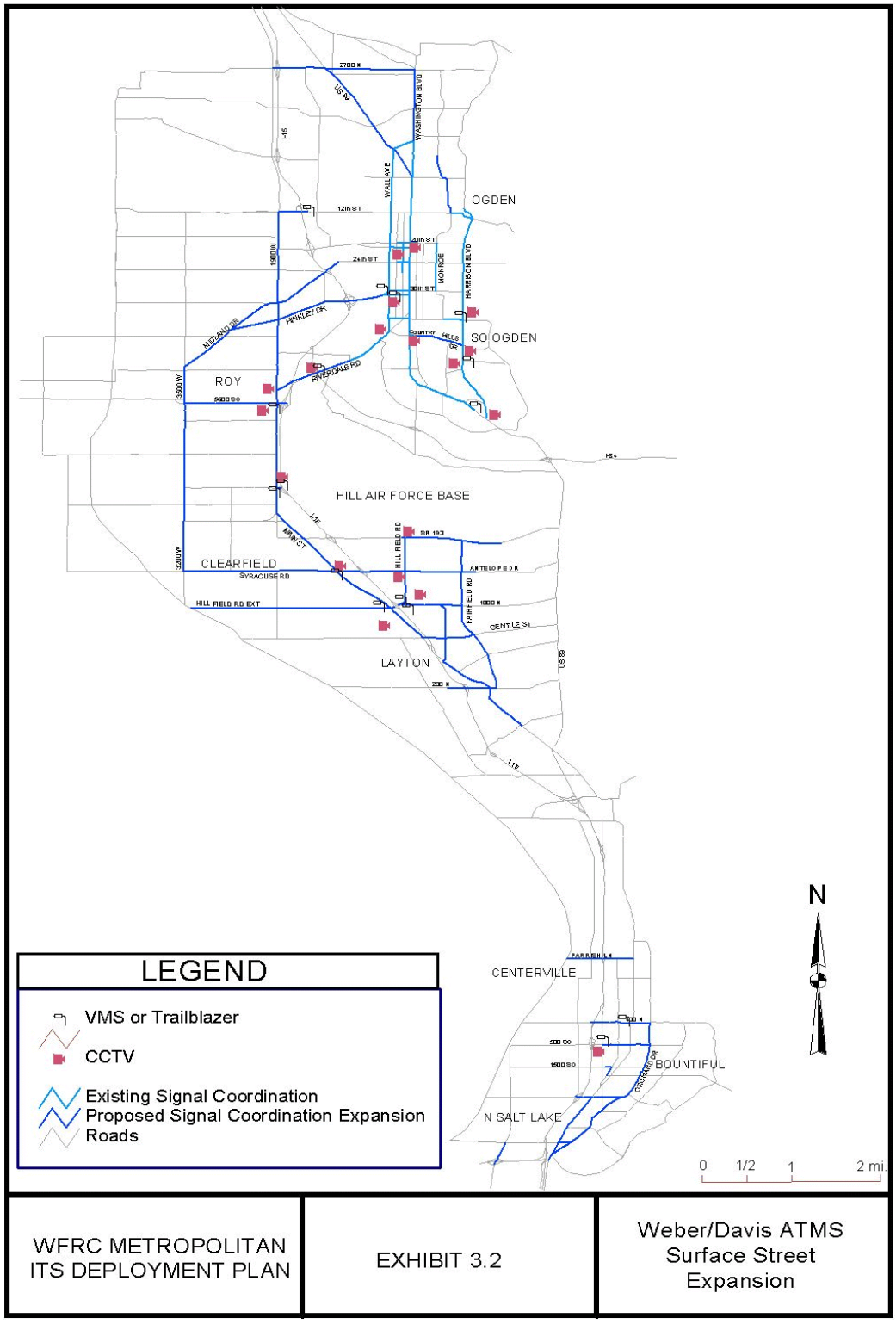
Map VI-7

WASATCH FRONT URBAN AREA
SALT LAKE ATMS SURFACE STREET EXPANSION PROJECTS



Map VI-8

WASATCH FRONT URBAN AREA
WEBER / DAVIS ATMS SURFACE STREET EXPANSION PROJECTS



OTHER TRANSPORTATION MODE RECOMMENDATIONS

In addition to highway and transit system improvements, the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 also recommends other transportation modes for moving people throughout the region. These other transportation modes, such as bicycle and pedestrian travel, are an integral part of the 2030 Plan Update recommendations. These important modes of transportation, and the interfacing of such with highway and transit travel, are also a part of the 2030 Long Range Transportation Plan Update.

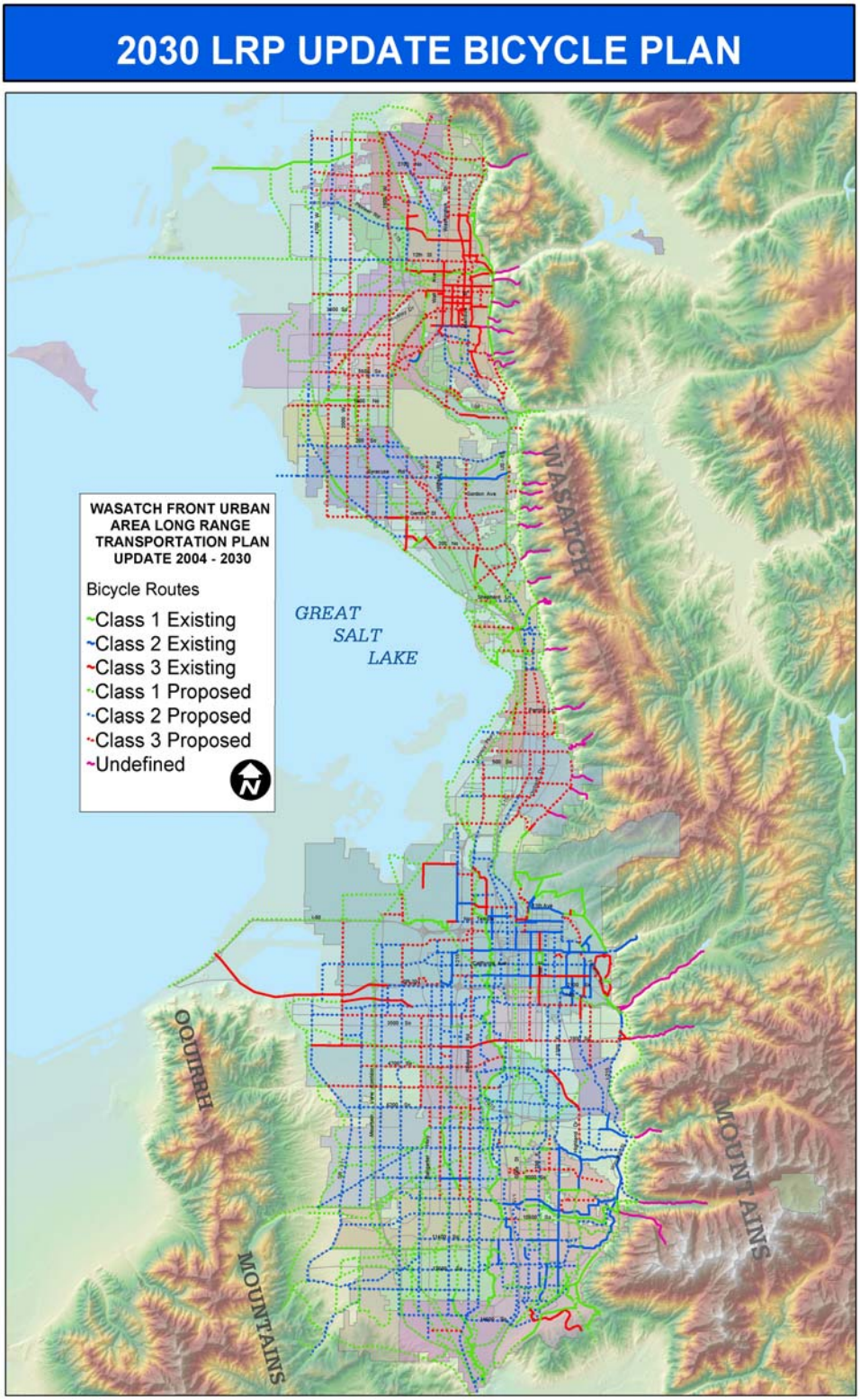
The Regional Bicycle Plan for Salt Lake, Weber, and Davis Counties was developed cooperatively by the Bicycle Task Force, local community officials, and Wasatch Front interest groups. It incorporates many individual community plans and identifies facilities for bicycle travel within street rights-of-way and separate paths or trails that will need to be considered when designs are formulated and street and other improvements are constructed. Bicycle facilities are mostly local in nature, but the Wasatch Front Regional Council coordinates between communities where regional needs exist. The Regional Bicycle Plan for the Wasatch Front Urban Area identifies an integrated regional network of bicycle routes from Bluffdale in southern Salt Lake County to Pleasant View in northern Weber County.

Many existing and new collector and arterial streets have been identified as bicycle routes where shoulders are, or are planned to be, wide enough to accommodate bicycle travel. These streets include Sunnyside Avenue in Salt Lake City, 7000 South in West Jordan and Midvale, 12300/12600 South in Riverton and Draper, Syracuse Road in Layton and Clearfield, Bluff Road in Syracuse, and Wall Avenue in Ogden. These facilities in the Plan are intended to serve major activity centers, such as the a Salt Lake City's central business district, the University of Utah, Weber State University, the Salt Lake Community College, major employment centers, transit stations, and on a more local level, numerous public schools. Bicycles are allowed on all streets, with the exception of most interstate highways. Therefore, all streets should be designed to accommodate the bicycle mode of travel, where possible. Also, the Regional Bicycle Plan identifies other bicycle trails or paths that have their own right-of-way. Examples of these are the facilities associated with the Legacy Parkway, the Jordan River Parkway, the Bonneville Shoreline Trail, some light rail routes, and several canals.

The Regional Bicycle Plan for the Wasatch Front Urban Area identifies specific facility improvements. Class I bicycle facilities provide for bicycle travel on a right-of-way completely separated from the travel lanes and shoulders of any street or highway. Class I facilities may be paved or unpaved, could have steep grades, and can be shared with pedestrians. Class II bicycle facilities provide a striped and signed lane for one-way bike travel on a street, usually one with a wider shoulder to accommodate the bicycle lane. Finally, Class III bicycle facilities provide a sign only for designated bicycle travel on a roadway shared with cars. The Regional Bicycle Plan for the Wasatch Front Urban Area is shown as Map VI-9.

As with bicycle facilities, pedestrian facilities, primarily sidewalks, are also local in nature. Pedestrians should be accommodated by providing sidewalks on all local, collector and arterial streets. Where neighborhood pedestrian patterns have been or could be disrupted due to the barrier effect of some busy arterial streets, expressways, and freeways, pedestrian over crossings and/or other facilities should be considered. Pedestrian facilities should be designed with safety in mind, especially for facilities that are heavily used by both pedestrian and vehicular traffic. The Wasatch Front Regional Council participates on UDOT's Pedestrian Safety Advisory Council, which has the responsibility for considering pedestrian safety issues, and making recommendations for improved pedestrian safety.

Map VI-9


2030 LRP UPDATE BICYCLE PLAN
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Bicycle Routes
Class 1 Existing
Class 2 Existing
Class 3 Existing
Class 1 Proposed
Class 2 Proposed
Class 3 Proposed
Undefined
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Program Policies

In previous bicycle planning efforts, planning policies were established to help with setting priorities. These requirements provide a basis for describing the role of bicycle facilities and trails in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. As part of this 2030 Long Range Plan Update, these policies were recently scrutinized to determine their relevance considering today's needs and conditions. The Wasatch Front Regional Council has adopted policies relating to pedestrian/bicycle planning. These bicycle and trails policies are as follows:

Planning

(1) Bicycle paths and pedestrian facilities will be included in the Transportation Plan.
(2) Regional planning should focus on a continuous regional system of trails, bikeways or paths, bicycle routes and lanes.
(3) Projects must be consistent with local trails plans, General Plans and AASHTO design guidelines, whenever possible. Planning and project funding should recognize safety for pedestrians, bicyclists, and motorists as a primary goal.
(4) Projects will be prioritized and their implementation phased over the period of the 2030 Long Range Transportation Plan Update based on need, safety, funding, and other considerations, and coordination between local governments, WFRC, and UDOT.
(5) Major activity centers, such as shopping centers, office and industrial employment centers, transportation centers, parks, community centers and libraries, and schools and universities, should be accessible from surrounding residential areas by bicyclists and pedestrians.
(6) Sidewalks should be available along all transit routes within the urbanized area for pedestrian access to transit vehicles.
(7) Barrier crossings (rivers, railroads, expressways, freeways, etc.) within urbanized areas should have provisions for both bicycle lanes and pedestrian sidewalks.
(8) Priority consideration for implementing bicycle and pedestrian projects and programs should be given within the "congested corridors" to increase the potential benefits from these facilities and to combine with the implementation of related congestion management strategies.
(9) Priority consideration for bicycle and pedestrian facilities should also be directed to areas of the region experiencing the early stages of urbanization in order to ensure that adequate provisions for non-motorized travel are incorporated in the transportation system as facilities are constructed or upgraded.
(10) The public should become better informed of the beneficial effects and personal well-being resulting from non-motorized travel.
(11) Incorporate bicycle and pedestrian travel into congestion management programs where feasible and appropriate.
(12) The concerns of the public expressed for not using non-motorized modes, such as safety, traffic, barriers, lack of facilities, and other concerns, should be reasonably addressed in order to encourage higher usage of this mode.

Specific pedestrian facilities were not identified as part of the 2030 Long Range Transportation Plan Update. However, general pedestrian friendly land use and development policy recommendations for pedestrian facilities and amenities are being proposed as a guide for local governments within the region

as transportation facilities are being planned and implemented. These policy recommendations are oriented towards local governments, because they control land use and development in their communities. Local governments are encouraged to follow pedestrian friendly urban design, site planning and subdivision design principles in evaluating new development proposals and to incorporate pedestrian facilities in existing developments wherever practicable. Neighborhood pedestrian access should be facilitated by creating trails, connecting cul-de-sacs with walkways, and other pedestrian facilities whenever possible.

Statewide Pedestrian and Bicycle Plan

In February of 2001, the Utah Department of Transportation (UDOT) adopted the *Statewide Pedestrian and Bicycle Plan*, which is an element of the *Statewide Long Range Transportation Plan*. This plan is prepared in compliance with the Transportation Equity Act for the Twenty-First Century (TEA-21) of 1998. The Act requires state transportation agencies to develop transportation plans and programs which will provide the development of transportation facilities, including pedestrian and bicycle facilities, for all areas of the State. The purpose of the Statewide Plan is to " . . . provide a framework to guide the Utah Department of Transportation (UDOT) and other public agencies in developing opportunities for walking and bicycling as clean, safe, convenient, cost-effective, and efficient modes of transportation."

Recommendations: The Statewide Pedestrian and Bicycle Plan has made some recommendations, which deal with the assessment of needs, and project planning and implementation. These are as follows:

- Pedestrian Inventory - UDOT is compiling and will maintain a comprehensive inventory to assess pedestrian planning needs. "The inventory includes existing facilities, areas with sidewalk discontinuity, and areas needing new sidewalks, rehabilitation or replacement of existing sidewalks, or retrofitting for greater accessibility."

- Bicycle Inventory - "The highway bicycling suitability characteristics map being developed for touring cyclists using rural highways will serve as the beginning point for a detailed inventory of needed improvements for safe bicycling on Utah highways." Bicycle facility needs, or deficiencies of various kinds, will be the focus of the inventory.

- Funding - Adequate funding is a key factor for successful implementation of pedestrian and bicycle projects. Traditionally, pedestrian and bicycle improvements have been required to compete, in many instances, with other projects that may have a higher priority. In many instances, whenever there is a widening, reconstruction, or some other street improvement, provisions for pedestrian and bicycle facilities must be considered and funded as a part of the street improvement. In other instances, the project may only be a pedestrian and/or a bicycle facility. All federal funding programs created under TEA-21 include pedestrian and bicycle facilities as eligible activities. Also, the Utah State Legislature appropriates funds for pedestrian and bicycle facilities through the Centennial Non-motorized Paths and Trail Crossings Program and the Safe Sidewalk program.

UDOT Policy Issues for Design, Construction, Maintenance, and Operations: During the development of the Statewide Pedestrian and Bicycle Plan, a number of issues were identified to serve as the basis

for discussions relative to policy development within UDOT. These policy issues are currently being evaluated for possible adoption of policies by UDOT, or for use in developing standard procedures for planning, identification of facility needs, project concept development, environmental review, design, construction, and maintenance of State transportation facilities. These policies are intended to provide "guidance for ensuring the development of a viable pedestrian and bicycle transportation system."

The Statewide Pedestrian and Bicycle Plan provides some guidance relative to projects in which local governments and UDOT have a mutual interest in the statement below.

> "Projects should consider potential impacts to pedestrian and bicycle connections shown in approved local and regional master plans and evaluate reasonable accommodations that can be incorporated into the project, where the master plan has:
>
> - considered options and feasibility,
> - included consultation with UDOT in the planning process, and
> - demonstrated a financial commitment to construct local walkways and bikeways connecting the requested project.
>
> Requested accommodations beyond the reasonable scope of a state transportation project may be incorporated with funding participation by the local agency."

The Plan provides some specific design, construction, maintenance, and operations guidance relative to the following categories: (A) Walkways, (B) Bikeways, (C) Combined Pedestrian/Bicycle Shared Use Paths, (D) Multi-use Trails and Equestrian Use of Trails and Shared Use Paths, (E) Designation of Bikeways and Bicycle Suitability Evaluation, (F) Bicycle and Pedestrian Travel on Interstate Freeways and Other Controlled-Access Highways, (G) Railroad Crossings, (H) Construction Zones, (I) Destination Facilities and Support Services, (J) Snow Removal, (K) In-line Skaters.

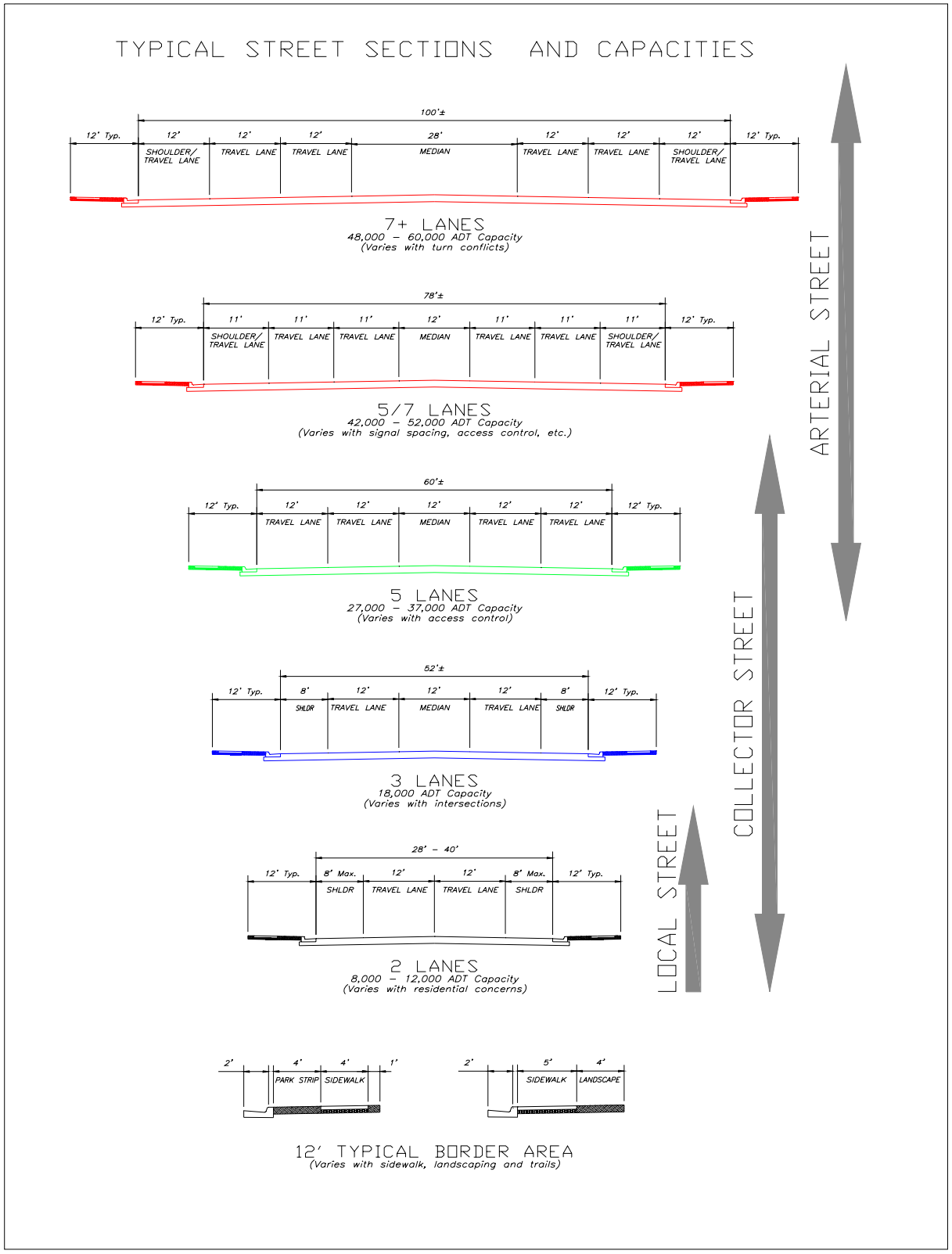
TYPICAL ROAD CROSS SECTIONS

Principal arterial streets are typically on a right-of-way greater than 80-foot and have four to six travel lanes with or without a center turn lane. Principal arterial streets are used to carry larger volumes of vehicles, greater lengths and serve the major centers of activity, such as 700 East does through Salt Lake City, South Salt Lake City, Murray City, and Sandy City.

Minor arterial streets typically have between 60-foot and 80-foot of right-of way, and have four travel lanes with or without a center turn lane. This classification of streets should interconnect with and augment the principal arterial system and carry trips of moderate length, yet provide some access to businesses. An example is 2300 East from I-80 to 4800 South.

Collector streets are within a 28-foot to 60-foot right-of-way and have two to four travel lanes with or without a center turn lane. Collector streets provide a connectivity between residential streets and arterial streets, such as West Temple. Residential streets are usually on a 28-foot to 40-foot right-of-way and have two travel lanes. Residential streets carry traffic within neighborhoods and smaller communities. Figure VI-2 shows typical roadway cross sections used on state and local streets.

Figure VI-2


TYPICAL STREET SECTIONS AND CAPACITIES
100'±
12' Typ.
12'
SHOULDER/ TRAVEL LANE
12'
TRAVEL LANE
12'
TRAVEL LANE
28'
MEDIAN
12'
TRAVEL LANE
12'
TRAVEL LANE
12'
SHOULDER/ TRAVEL LANE
12' Typ.
7+ LANES
48,000 – 60,000 ADT Capacity
(Varies with turn conflicts)
78'±
12' Typ.
11'
SHOULDER/ TRAVEL LANE
11'
TRAVEL LANE
11'
TRAVEL LANE
12'
MEDIAN
11'
TRAVEL LANE
11'
TRAVEL LANE
11'
SHOULDER/ TRAVEL LANE
12' Typ.
5/7 LANES
42,000 – 52,000 ADT Capacity
(Varies with signal spacing, access control, etc.)
60'±
12' Typ.
12'
TRAVEL LANE
12'
TRAVEL LANE
12'
MEDIAN
12'
TRAVEL LANE
12'
TRAVEL LANE
12' Typ.
5 LANES
27,000 – 37,000 ADT Capacity
(Varies with access control)
52'±
12' Typ.
8'
SHLDR
12'
TRAVEL LANE
12'
MEDIAN
12'
TRAVEL LANE
8'
SHLDR
12' Typ.
3 LANES
18,000 ADT Capacity
(Varies with intersections)
28' – 40'
12' Typ.
8' Max.
SHLDR
12'
TRAVEL LANE
12'
TRAVEL LANE
8' Max.
SHLDR
12' Typ.
2 LANES
8,000 – 12,000 ADT Capacity
(Varies with residential concerns)
2'
4'
PARK STRIP
4'
SIDEWALK
1'
2'
5'
SIDEWALK
4'
LANDSCAPE
12' TYPICAL BORDER AREA
(Varies with sidewalk, landscaping and trails)
ARTERIAL STREET
COLLECTOR STREET
LOCAL STREET

TRANSPORTATION ENHANCEMENTS

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Efficiency Act for the 21st Century (TEA-21) both included a requirement that 10 percent of federal Surface Transportation Program funding be dedicated to Transportation Enhancements (TE) activities. Transportation enhancement activities are a means of more creatively and sensitively integrating surface transportation facilities into their surrounding communities. They may protect the environment and provide a more aesthetic, pleasant and improved interface between the transportation system for the communities and people adjacent to transportation facilities. UDOT is also incorporating these principles into other projects through a concept called Context Sensitive Solutions.

Federal Transportation Enhancement funds are to be used for transportation-related capital improvement projects that enhance quality-of-life, in or around transportation facilities. Projects must be over and above the required mitigation for normal transportation projects, and the project must be directly related to the transportation system. The projects should have a quality-of-life benefit while providing the greatest benefit to the greatest number of people. Projects must accomplish one or more of the following:

- Provide facilities or safety and educational activities for pedestrians and bicyclists
- Acquire scenic easements and scenic or historic sites related to transportation
- Create or expand scenic or historic highway programs (including providing tourism or welcome centers facilities)
- Provide landscaping and other scenic beautification
- Historic preservation of transportation-related facilities
- Rehabilitation and operation of historic transportation buildings, structures or facilities (including historic railroad facilities and canals)
- Preserve abandoned railway corridors (including converting the corridors to pedestrian or bicycle trails)
- Control and removal of outdoor advertising
- Archeological planning and research
- Addressing environmental problems such as water pollution from highway runoff or protecting wildlife by providing safe highway-crossing methods
- Establishment of transportation museums

Approximately $2.5 million will be available statewide each year for locally sponsored projects to enhance Utah's transportation system. The Transportation Enhancements program is a federal reimbursement program and the actual dollar amount will be dependent upon congressional and state appropriations. The Utah Department of Transportation oversees this program.

The Wasatch Front Regional Council has worked to include transportation enhancements as part of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 by identifying bike and pedestrian facilities and encouraging UDOT and local agencies to include context sensitive solutions in their projects. The WFRC will continue to encourage diverse modes of travel, increase the community benefits to transportation investment, strengthen the partnership between state and local governments, and promote citizen involvement in transportation decisions. The 2030 LRP Update recommends that enhancement funding be primarily used for bike and pedestrian facilities and landscaping around transportation related projects.

CONGESTION MANAGEMENT SYSTEM

The Wasatch Front Regional Council has established a Congestion Management System (CMS) for the Wasatch Front Urban Area. The CMS identifies congested locations, evaluates transportation system management (TSM) and transportation demand management (TDM) strategies, and makes recommendations regarding implementation of these strategies. In most cases TSM and TDM strategies alone are insufficient to eliminate the need for new capacity due to the high growth rate anticipated for the region. However, in some marginal cases TSM and TDM strategies can be successfully applied to address congestion issues without expanding capacity, and in all cases TSM and TDM implementation can improve the operation and maintenance of planned facilities when additional capacity is required.

Development of congestion mitigation on a site-specific basis occurs in at least two ways as part of the CMS process. First, congested locations are addressed directly. The process begins by identifying causes of congestion and suggesting mitigation actions including both TDM and TSM solutions. Once concepts are developed, proposed actions compete for a variety of funding sources. The second way congestion is mitigated at specific locations is through guidance given to sponsors of capacity-increasing projects. The WFRC has outlined mitigation strategies that are considered reasonable for each by functional street classification and provides clarification and/ or emphasis on a project by project basis. This guidance is prepared for each project on the 2030 Long Range Transportation Plan. Once the project is part of an approved Transportation Improvement Program, the project sponsor is given the opportunity to review and discuss the guidance during the concept development stage.

The CMS also contributes to the project selection process of the Long Range Plan by identifying new capacity needs. By applying future travel demand to existing transportation systems ("no-build" scenario) in the travel model, it is possible to identify locations that will likely experience congestion in the future. A list of future congested locations is prepared based primarily on volume to capacity ratios. Arterials with a PM peak period V/C ratio of 1.5 or greater and freeways with a PM peak period V/C ratio greater than 1.0 are generally recommended for increased capacity. In some cases a proposed project on a parallel facility may alleviate "no-build" congestion on more than one facility, in which case the "build" scenario is examined to see if volumes warrant more than one project. Once the initial list of new capacity recommendations is developed, it is reviewed by members of the Salt Lake and Ogden-Layton Congestion Management Committees for feedback. The revised list is then presented to the Long Range Plan team to be considered in the planning process.

The CMS addresses the need for LRP projects and supports the overall recommendations of the Wasatch Front Urban Area 2030 Updated Long Range Transportation Plan. The CMS recognizes that congestion relief will come from a variety of improvements. The highway and transit improvements outlined in the recommendations of the Updated Plan will help relieve congestion, as will the ITS and system management actions. Transportation demand management can also be a very cost effective response to congestion. While individual congestion management strategies may not be effective in every case, each can be effective when appropriate conditions are present. The CMS and the Updated Plan recommend consideration of these strategies where appropriate. Tables VI-8 and VI-9 include a list of 2030 LRP Update Demand Management and System Management Strategies for the Wasatch Front Urban Area.

Table VI-8

WASATCH FRONT URBAN AREA
2030 LRP UPDATE DEMAND MANAGEMENT STRATEGIES

DESCRIPTION	WHERE EFFECTIVE
Rideshare Promotion	Regional, Major Employment Centers
Staggered and Flexible Work Hours	Regional, Major Employment Centers
Telecommuting	Regional
Transit Malls	Street Segments with High Numbers of Buses
Parking Management	Activity Centers
Preferential Treatment of Transit	Corridors with High Numbers of Buses
Transit Fare Reductions	Regional, Activity Centers, Encouraged Growth Areas
Express / Limited Stop Buses	Principal Arterials Connecting High Density Residential Development With Major Employment Centers
Bus Transfer Center	Connecting Corridors With Several Buses or Rail
Park-And-Ride Lots	Principal Arterials, Rail Lines, and High-Frequency Bus Corridors Connecting Residential Development to Major Activity Centers
Walk / Bicycle	Regional, Highest Densities, Major Activity Centers
Trip Reduction Ordinances	Regional, Major Employment Centers
Parking Management	Major Employment / Activity Centers

Table VI-9

WASATCH FRONT URBAN AREA
2030 LRP UPDATE SYSTEM MANAGEMENT STRATEGIES

DESCRIPTION	WHERE EFFECTIVE
Signal System Improvements / Coordination	Signalized Intersections / All Arterials Where Signals Are Spaced Less Than 1 Mile Apart
Bottleneck Elimination	Arterial Segments with Reduced Capacity
Access Management	Arterials, Arterial Intersections
Intelligent Transportation Systems	Freeways, Arterials
Incident Management	Freeways, Principal Arterials
Reversible Lanes	Facilities With Greater Than or Equal To A 60/40 Directional Split, Right of Way Limitation, and Low Left Turn Demand
Ramp Metering	Freeways
Improving Interchange / Intersection Geometrics	Freeways / Arterials
High Occupancy Vehicle (HOV) Lanes	Freeways

HOMELAND SECURITY

The Wasatch Front Region is often times referred to as the "cross roads of the west". It becomes very obvious why when you view the greater western United States. With the Rocky Mountains bisecting the western portion of the United States (north-south) there are only five interstate facilities that allow east west travel across the mountains. Of those facilities, I-80 is the most centrally located running through Salt Lake City and connecting New York - Chicago - Omaha - Salt Lake and San Francisco.

Similarly, I-15 is one of only three north-south interstate facilities west of the Mississippi River, which extend to the northern and southern borders of the United States. Designated the Canadian-Mexican (CanaMex) transportation corridor, I-15's regional impacts along the Wasatch Front are ever increasing. While paralleling the Rocky Mountains it too passes through the Wasatch Front Region crossing I-80 in the Salt Lake valley.

Interstate highways are not the only transportation facilities crossing on the Wasatch Front. The aviation and railroad systems have an equivalent convergence and are often times overshadowed by the focus on roads. The trans-continental railroad, being the first modern day transportation system to cross the Rocky Mountains, continues to be the major east-west rail connection across the United States. Aviation, like rail, targets a specific transportation market and has considerable impact and influence on the region as the next closest major commercial service airport is over 300 miles away.

In developing a transportation plans for both surface and air, the distinctive topography of the region must be taken into account. The surface transportation facilities including I-15 and I-80 both pass through extremely narrow corridors. In Centerville City, the corridor is one mile wide and is constrained by mountains and the Great Salt Lake. It includes I-15, two railroad corridors, one arterial and a power corridor as well as a considerable amount of residential development. In Draper City, the corridor is again one mile wide and constrained by mountains on either side and the Jordan River. It includes I-15, two railroad corridors, one arterial, two frontage roads and a power corridor. To the east is Parley's Canyon, which is 200 feet wide, constrained by rock cliffs and is the route of I-80. To the west at Lake Point Junction the corridor is one quarter mile wide and constrained by the Oquirrh Mountains and the Great Salt Lake and includes I-80, a railroad corridor, a power corridor and a frontage road.

Again, while the focus is on surface transportation, the air corridors are also severely restricted as access to the Salt Lake International Airport is limited to north-south approaches, which are further impacted by the confined air space bounded by mountains on the east and west. The pinch points affecting surface transportation in all cardinal directions from Salt Lake City and the availability of limited air space create the need for more redundancy to respond to security concerns within the transportation system throughout the region.

When taking this perspective of the "cross roads" in considering the convergence of two interstate highways, the trans-continental railroad and an international airport along the Wasatch Front it becomes very evident that the regional transportation facilities have national significance. This significance is further increased when consideration is given to the physical constraints of the topography. These conditions quickly raise awareness and concern of the potential the local transportation system has for impacting the national transportation industry, and homeland security interests, as well as disrupting local and regional affairs.

The national significance of this "cross roads of the west" coupled with the restrictive topography and demonstrated need for additional regional transportation facilities to serve the increasing daily regional travel demands, bolsters the rational for long range transportation projects, which improve and maintain current facilities, expand capacity and add new facilities.

In order to ensure future travel demands are served and security of the system is preserved, a proactive and comprehensive approach must be taken. One aspect of the transportation system that has received much attention over the past several years is traffic operations. With increasing travel demand, congestion and delay experienced regularly on the transportation network throughout the region, UDOT established a consolidated traffic management facility in the form of the Traffic Operation Center (TOC), in the spring of 1999. The TOC not only helps UDOT manage the highway system within the urbanized area but links with the Utah Transit Authority, affording an opportunity for the free-flow of information (accident, incident and construction) and a more effective transit system.

The operation was further enhanced when the Utah Department of Public Safety (DPS) and UDOT became the first in the United States to integrate a computerized traffic management system with a computerized dispatch system for public safety and transportation services. This integration allows DPS dispatchers to work closely with UDOT operators and give them access to traffic monitoring and control systems. The partnership is also able to dispatch Incident Management Teams, Emergency Medical Services, the Utah Highway Patrol, and UDOT maintenance teams to critical incidents.

As the 21st Century begins, the region has an opportunity and the responsibility to continue to identify and address security issues that may affect the transportation infrastructure and quality of life enjoyed along the Wasatch Front. Safeguarding transportation assets is critical to the economic well being and vibrance of the region and each individual community. The specific issues that must be addressed in developing a long range transportation plan are two fold: to serve the growing travel demand; and to ensure continued access to critical services throughout the region should transportation facilities become impassable due to natural disaster, everyday accidents, or potential terrorist acts.

Specific areas that command attention include, but are not limited to, security, safety and maintenance assistance, utilities, hospitals, fire fighting capabilities, communications, power, and water. Any of these areas and others, should they become disrupted for any length of time, have the potential for causing undue hardship and/or agitation and anxiety due to the expectation and realization of some danger. It is because of these concerns that security of the transportation facilities throughout the region is critical in the development and adoption of a long range plan. With heightened awareness of homeland security it is imparitive that a process of public notice and education at all levels of involvement continue. Only with this vigilant effort can the region ensure each community the continued secure conditions necessary for sustained progressive growth and the maintenance of a good quality of life.

Again, when looking at the Wasatch Front Region as the "Cross Roads of the West," planning for secure transportation facilities takes on a new aspect. To ensure the visibility of transportation facilities, the ITS system should be extended to the full reaches of the urbanized area as well as the restrictive corridors accessing the region. Additionally, new and expanded transit assets and roadway facilities must be included to improve the redundancy of the system, which will in turn decrease the potential impacts on of vital services and utilities, including hospitals, public safety, communications, power, and water. If the quality of life along the Wasatch Front is to be maintained, orderly efforts must be focused on protecting the assets that ensure the stability and growth of communities.

VII. PLAN IMPACTS AND EVALUATION

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 was evaluated to determine its social, economic and environmental impacts and how well it will meet the transportation needs of the region in the year 2030. The goals and objectives for the 2030 LRP Update as discussed in the "Goals and Objectives" section of Chapter II, formed the basis for this evaluation. The 2030 LRP Update was also analyzed to determine its conformity with state air quality plans.

The primary purpose of these evaluations was to identify issues that will need to be addressed further in the preliminary engineering phase of project development or issues which could prevent the implementation of recommended projects. In addition, the evaluation studied areas where congestion is still expected to occur in 2030, even with the recommended Wasatch Front Urban Area 2030 LRP Update highway capacity improvements, so that other strategies can be developed to address this congestion.

TRANSPORTATION IMPACTS

The primary purpose of the transportation system is to provide mobility and accessibility to allow people and goods to move about the region efficiently. Several measures can give an indication of the level of mobility and accessibility provided by the transportation system. Delay and volume to capacity (V/C) ratios are two of the indicators of highway system performance. Transit system performance is primarily measured by linked trips and mode split.

The Wasatch Front Urban Area had a population of about 1,367,000 people in 2001 who on an average weekday drove approximately 34,500,000 vehicle miles traveled (VMT) and experienced 42,000 vehicle hours of PM peak period delay. By the year 2030, the Wasatch Front Urban Area's population will include over 2,100,000 people, driving approximately 61,000,000 vehicle miles and experiencing over 140,000 vehicle hours of PM delay each weekday, assuming the completion of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 includes approximately 1,220 lane miles of capacity improvements to the highway system, over 100 miles of additional fixed guideway transit line, and a significant expansion of the number of buses operating throughout the region. But even this expansion of capacity will not be sufficient to keep pace with the growth in travel demand. Projected population and vehicle miles traveled for 2030 will cause average weekday PM delay to increase by 220 percent from 2001. Figure VII-1, "PM Delay Comparison," illustrates that without the improvements recommended in the 2030 Plan, weekday PM delay would increase by over 800 percent instead of 220 percent. Without the improvements of the 2030 LRP Update, weekday PM delay would be several hundred thousand hours. Map VII-1 illustrates where congestion levels are highest presently, primarily on road segments that are red in color.

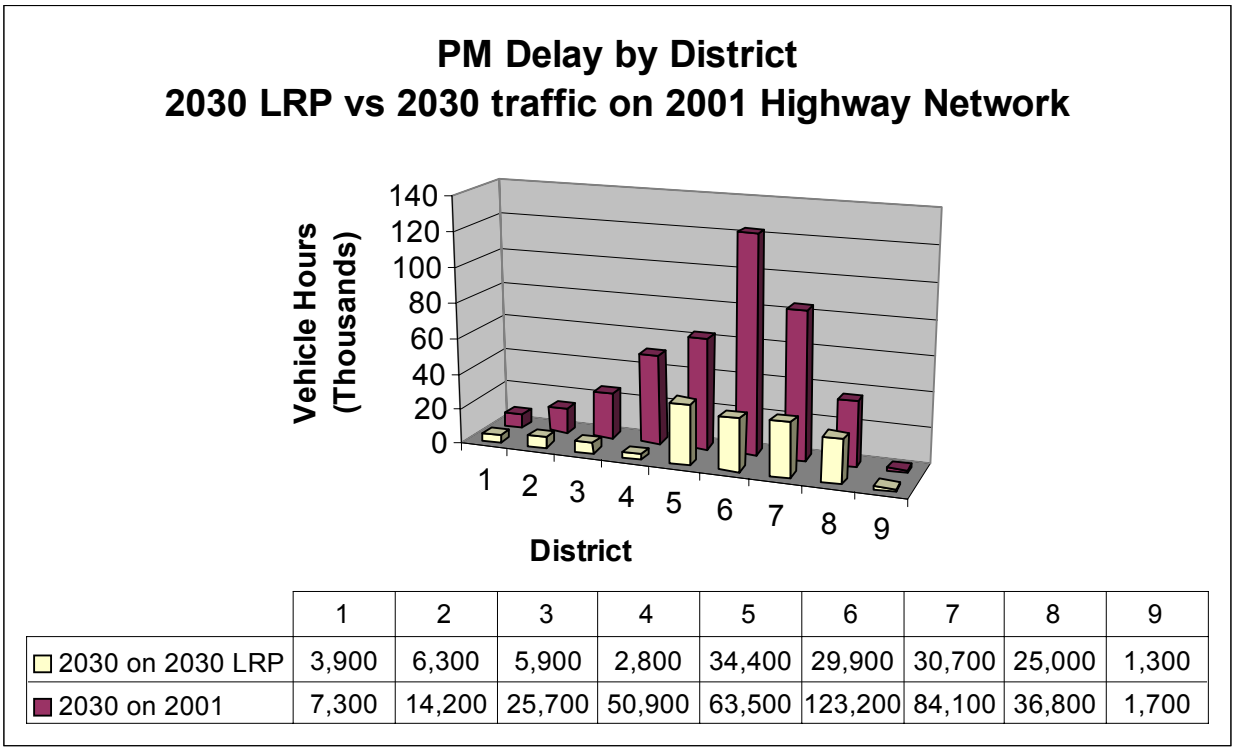
The V/C ratios on individual highway facilities presented as Map VII-2, "Wasatch Front Urban Area 2030 Volume/Capacity" provide an indication of which corridors are likely to experience the most severe traffic congestion in 2030, even with the implementation of the 2030 LRP Update. Corridors in the western half of Salt Lake County outside the belt route, in northern Davis County and south Weber

County are expected to have the worst congestion. Significant amounts of traffic delay are also projected within the belt route in Salt Lake County.

The Wasatch Front Urban Area Long Range Plan Transportation Plan Update: 2004-2030 includes a significant expansion of regional bus service and area coverage. Both the planned improvements and the growth in the travel market will result in significant increases in transit ridership. In 2003, transit patrons made approximately 69,000 linked trips. By 2030, this number is projected to more than double. The percentage or mode split of home-based transit work trips is expected to increase significantly. This increased mode share is attributed to the additional convenience provided by both increased coverage and frequency.

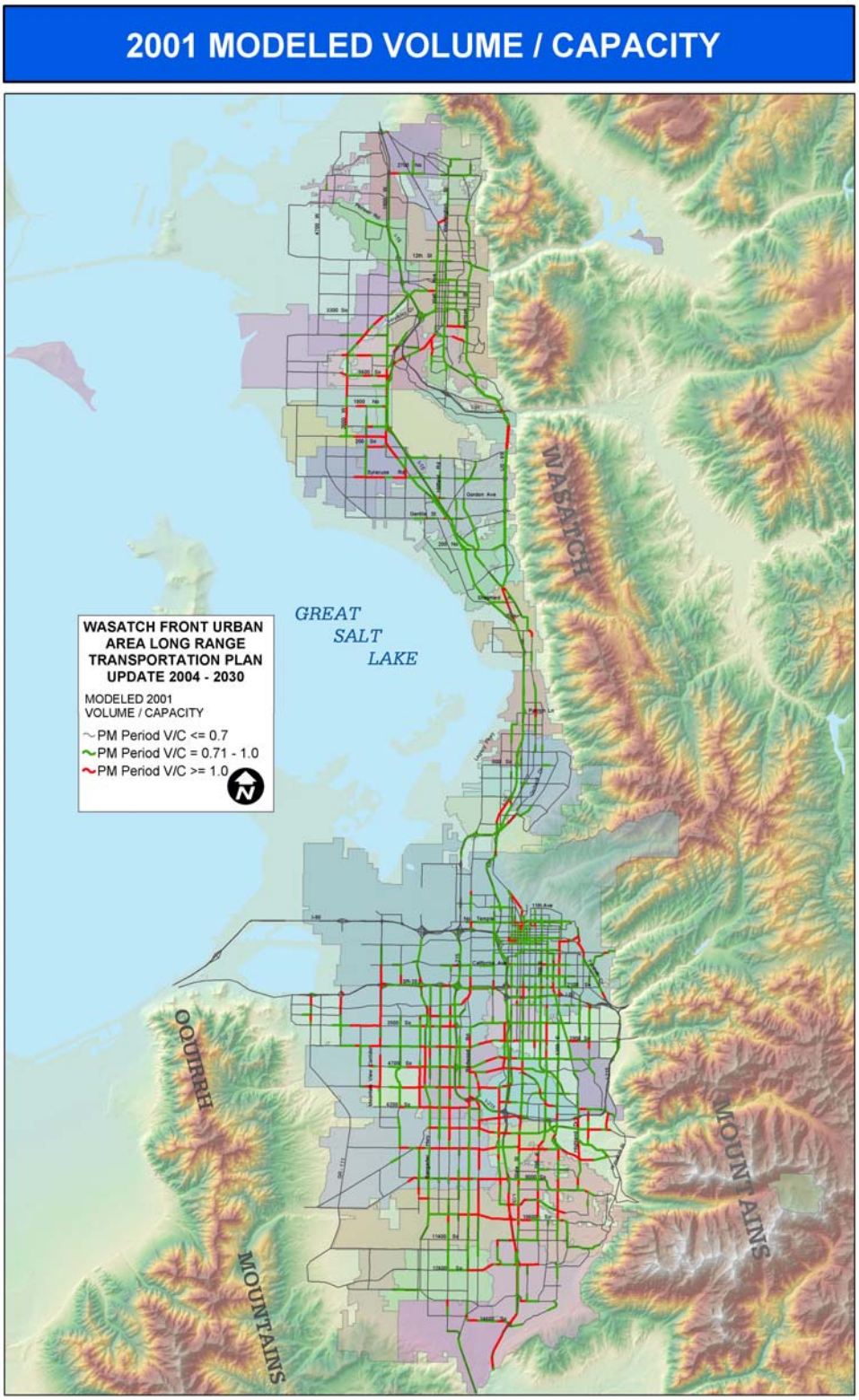
Figure VII-1

WASATCH FRONT URBAN AREA
PM DELAY COMPARISON

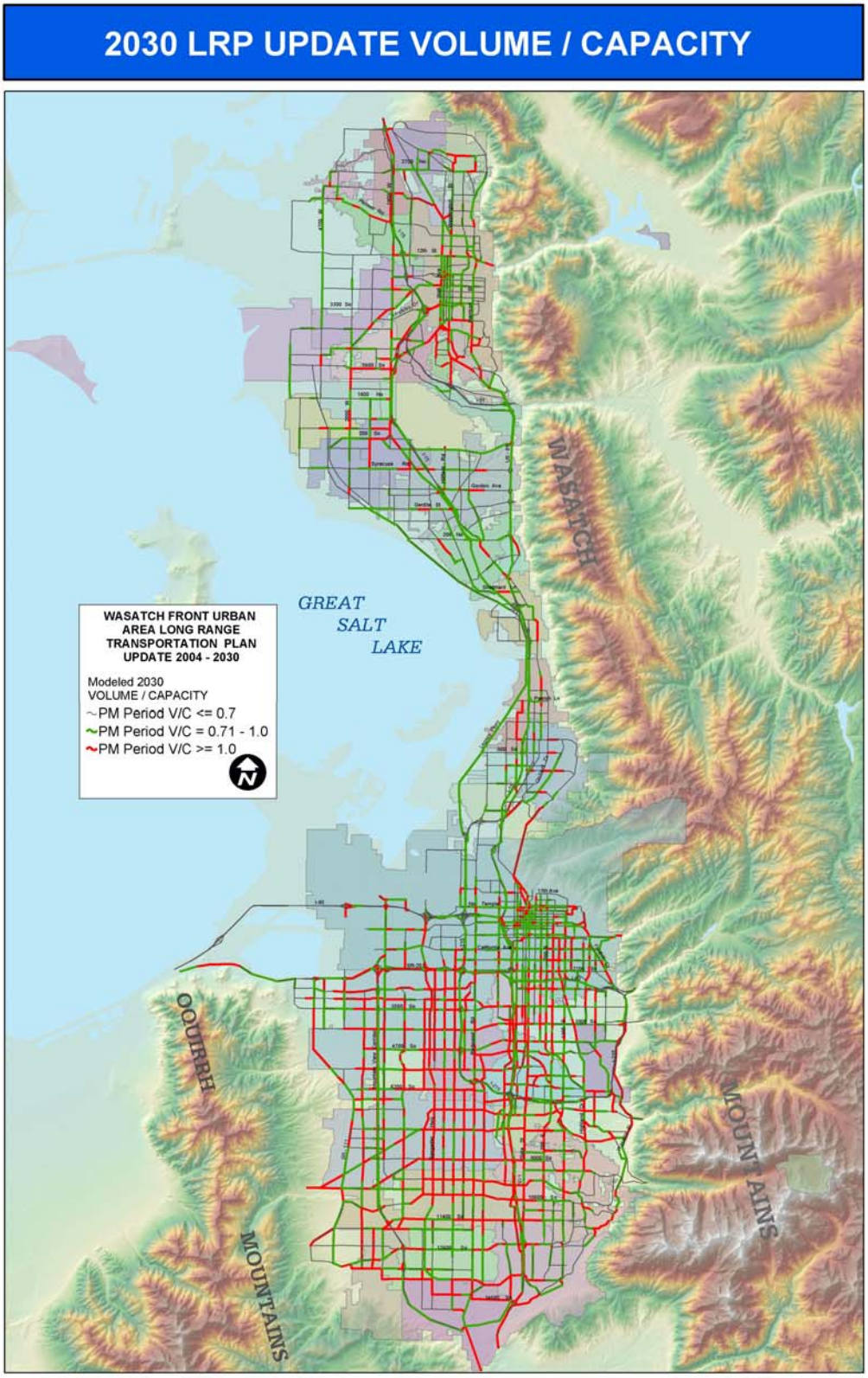


	1	2	3	4	5	6	7	8	9
2030 on 2030 LRP	3,900	6,300	5,900	2,800	34,400	29,900	30,700	25,000	1,300
2030 on 2001	7,300	14,200	25,700	50,900	63,500	123,200	84,100	36,800	1,700

Map VII-1


2001 MODELED VOLUME / CAPACITY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
MODELED 2001 VOLUME / CAPACITY
PM Period V/C <= 0.7
PM Period V/C = 0.71 - 1.0
PM Period V/C >= 1.0
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Map VII-2


2030 LRP UPDATE VOLUME / CAPACITY
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Modeled 2030
VOLUME / CAPACITY
PM Period V/C <= 0.7
PM Period V/C = 0.71 - 1.0
PM Period V/C >= 1.0
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

The above analysis of system performance leads to one primary conclusion: the growth in travel demand will result in growing congestion in spite of the highway and transit improvements which are included in the Plan. The construction of the planned facilities will result in considerably less congestion than if they were not built, but they will not eliminate congestion.

A secondary conclusion is that the plan is fairly effective in serving the various areas of the region evenly. Much of what is planned will serve the rapidly growing areas of the region and eliminate some of the effects of rapid growth. From the perspective of individual facilities, there will continue to be some pockets of severe peak period congestion. With this projected growth and congestion, congestion management activities will become more critical. Neither the demand management nor system management strategies that are recommended in Chapter VI, Long Range Plan Recommendations, will eliminate the need for the facilities in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. However, these strategies can be effective in helping reduce some of the projected congestion.

SOCIAL IMPACTS

Transportation highway projects and facilities identified in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 can be socially beneficial by reducing congestion in the short term and providing new or improved land access. However, if not properly planned, projects can also have adverse social effects on existing development and that planned for the future. Potentially negative social effects include increased noise, neighborhood disruption, and residential and commercial relocations. This section discusses the 2030 LRP Update's potential impacts on land use, relocations and neighborhood disruption, housing goals and strategies, school safety, cultural resources, and disadvantaged groups.

Land use: The connection between land use and transportation has been studied by planners and engineers for many years. Traditionally, extending a region's transportation network opens up additional land for eventual development and, in turn, newly developed land with its increase in travel demand requires improvement of the existing transportation network. It is evident that the provision of transportation improvements is not keeping up with the growth in transportation demand. The rapid growth of the suburbs during the past 30 or more years has created a new and very significant change in urban travel patterns. That change is suburb-to-suburb travel. The trend for further decentralization and dispersal of population and employment, giving rise to the development of significant suburban commercial/industrial traffic generating activity nodes, is expected to continue in the foreseeable future. Much of this development has occurred without the supporting transportation improvements needed to serve it. This situation will place further demands on the transportation system, which cannot keep up with demand, and will result in continued congestion in the growing parts of the Wasatch Front Area.

In order to avoid or mitigate the effects of congestion, it will become more and more important to connect land use plans and zoning ordinances with regional transportation planning. Local city planners must carefully consider the transportation implications of their land use decisions, while at the same time, regional transportation planners must strive to match recommended transportation investments to changing land use patterns and densities.

The Wasatch Front Regional Council, in cooperation with local governments, continues to coordinate transportation planning with local land use planning. The development of the 2030 LRP Update recommendations gave significant consideration to the location of future population and employment and other variables that would be indicative of future transportation demand. Both the population and employment projections were correlated with the land use provisions of each communities' General Plan. Land use and transportation planning information from local communities' General Plans was an input to the transportation planning process. During the planning process, the WFRC made considerable efforts to create a Plan that will best support the official long range land use and transportation policies of the local communities.

Relocations, Neighborhood Disruption and School Safety: Relocation and neighborhood disruption impacts vary by the type of transportation project proposed. Generally, relocation impacts are determined by the amount of setback structures have from the existing street right-of-way and the amount of right-of-way required for the project. Neighborhood disruption impacts occur when homes, businesses, or community institutions are removed from the neighborhood or when the roadway becomes a barrier to neighborhood interaction.

Relocation of homes and businesses can occur as a result of implementing many of the projects in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. Most will be relatively minor. The projects which were determined to have the greatest potential for relocation impacts were roadway upgrade projects which require 30 or more feet of additional right-of-way and pass through already developed residential or commercial areas. Projects can result in neighborhood disruption if they change the nature of the road passing through the community and become a barrier to community interaction. Freeways, expressways, and six and eight-lane principal arterials have the greatest potential to disrupt neighborhoods and create barriers.

During project design, relocations may be mitigated by shifting the highway alignment to limit impacts. Neighborhood disruptions may be minimized by providing pedestrian and bike crossing facilities, maintaining local street inter-connectivity, depressing the roadway to limit the visual intrusion of the roadway into the community, and/or helping impacted neighborhood resources to mitigate their loss within the same neighborhood. Table VII-1 below and on the following page lists highway improvement projects which have the potential for major relocation, neighborhood disruption and school safety impacts.

School Safety: School safety impacts due to roadway projects vary according to the nature of the roadway change, the type of school involved, and the traffic exposure of student pedestrians. For this report, projects with potential for unusual or major impacts on school safety are those that provide for a widening of an existing road from four or less lanes to six or more within the designated walk-to-school area of an elementary or junior high school. Local school districts were contacted to identify these walk-to-school areas. The state does not provide for the busing of students living within 1.5 miles of an elementary school or two miles from a secondary school.

A list of projects was developed for the Salt Lake Urbanized Area and the Ogden/Layton Urbanized Area which show potential housing relocation, neighborhood barriers and school safety concerns. This information has been summarized in Table VII-1 and VII-2. The Wasatch Urban Area schools, elementary, junior high, high school, colleges, and universities are graphically displayed on Map VII-2.

Table VII-1

SALT LAKE URBANIZED AREA PROJECTS WITH POTENTIAL IMPACTS RELOCATIONS, NEIGHBORHOOD BARRIERS AND SCHOOL SAFETY

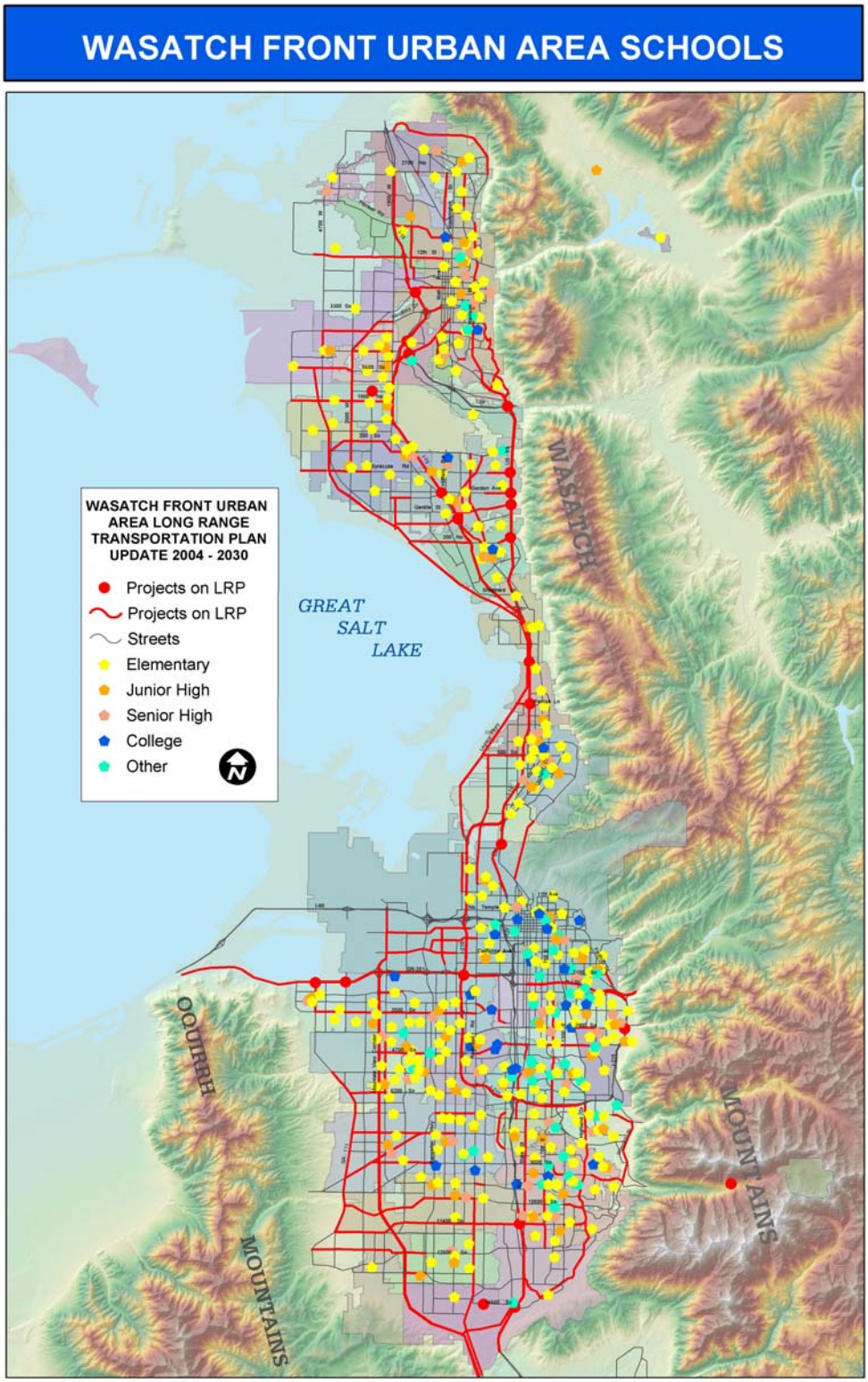
STREET	FROM	TO	RELOCATION	NEIGHBORHOOD BARRIER	SCHOOL SAFETY
Interstate 80	State Street	Parley's Canyon	Yes		
2100 South Fwy. (SR-201)	Jordan River	Mt. View Corridor	Yes		
3500 South	Redwood Road	8400 West	Yes	Yes	Yes
4500 South	2300 East	700 East	Yes	Yes	Yes
4500 South	I-15	State Street	yes	Yes	Yes
4700 South	4000 West	WTC*	yes	Yes	Yes
6200 South	5600 West	SR-111	Yes	Yes	Yes
7000 South	3100 East	Wasatch Blvd.		Yes	Yes
7800 South	2700 West	WTC	Yes	Yes	Yes
9000 South	Bangerter Highway	New Bingham Hwy.		Yes	Yes
9000/9400 South	700 East	1300 East	Yes	Yes	Yes
9400 South	2100 East	Wasatch Blvd.	Yes	Yes	Yes
9800/10000 South	1300 West	Redwood Road	Yes	Yes	
10600 South	1300 East	Highland Drive	Yes	Yes	Yes
10400/10600 South	Bangerter Highway	Redwood Road	Yes	Yes	Yes
11400 South	Interstate 15	SR-111	Yes	Yes	Yes
12300/12600 South	Bangerter Hwy.	SR-111	Yes	Yes	Yes
13400 South	WTC	Bangerter Hwy.	Yes	Yes	Yes
Main Street	4400 South	Vine Street	Yes	Yes	Yes
Main St./300 West	5200 South	7200 South	Yes	Yes	Yes
State Street	7200 South	11400 South	Yes	Yes	Yes
700 East	9400 South	12300 South	Yes	Yes	Yes
900 East	2900 South	4500 South	Yes	Yes	Yes
900 East	Van Winkle Expwy	6600 South	Yes	Yes	Yes
Highland Drive	9400 South	13800 South	Yes	Yes	Yes
Highland Drive Connection	13800 South	Highland Drive		Yes	Yes
11400 So. Interch.	@ Interstate 15		Yes		
900 West	3300 South	700 West		Yes	Yes
Redwood Road	Davis County Line	1000 North		Yes	Yes
Redwood Road	10400 South	Utah County Line	Yes	Yes	Yes
5600 West (Collector)	4400 South	6200 South	Yes	Yes	Yes
Mt. View Corridor	I-80	Utah County Line	Yes	Yes	Yes

Table VII-2

OGDEN/LAYTON URBANIZED AREA PROJECTS WITH POTENTIAL IMPACTS RELOCATIONS, NEIGHBORHOOD BARRIERS AND SCHOOL SAFETY

STREET	FROM	TO	RELOCATION	NEIGHBORHOOD BARRIER	SCHOOL SAFETY
Legacy Parkway	I-15/US Hwy. 89	I-215	Yes	Yes	
1800 North (Clinton)	Main Street	5000 West	Yes		
200 South/700 South	200 South (Clearfield)	No Legacy Hwy.	Yes		
Syracuse Rd. (SR-108/127)	1000 West	4500 West	Yes	Yes	Yes
Hill Field Road Ext.	2200 West	3200 West	Yes		
Antelope Drive	2200 East	US Highway 89		Yes	Yes
Gordon Av.	1600 East	US Highway 89	Yes	Yes	Yes
Gentile St./Oakhills Dr.	SR-126 (Layton)	US Highway 89	Yes	Yes	Yes
Fort Lane (Layton)	Main Street	Gordon Avenue	Yes		Yes
2700 West (Layton)	Hill Field Rd. Ext.	Legacy Hwy.	Yes		
Fairfield Road	200 North (Kaysville)	SR-193	Yes		Yes
2000 West	Syracuse Road	Weber County Line	Yes	Yes	Yes
US Highway 89	I-15 (Farmington)	Harrison Blvd.		Yes	Yes
US Hwy 89 Interchanges	As Per 2030 Long Range Transportation Plan Map (5 interchanges)		Yes	Yes	Yes
Pioneer Rd./2nd St.	I-15	Washington	Yes	Yes	Yes
12th Street (SR-39)	1200 West	Wall Avenue		Yes	
24th Street at I-15	Interchange		Yes		
Hinckley Drive	Interstate 15	Wall Avenue		Yes	
40th Street	Wall Avenue	Harrison Blvd.	Yes		Yes
Midland Drive (SR-108)	Hinckley Drive	3500 West (Roy)			Yes
4800 South	1900 West (Roy)	3500 West (Roy)	Yes		Yes
1100 West / 1200 West	20th Street	400 North		Yes	Yes
4700 West	4000 South	4800 South		Yes	Yes
Monroe Blvd.	1300 North	2700 North		Yes	Yes
300 West	Riverdale Road	4800 South		Yes	
No. Legacy Hwy.	5500 So. (Roy)	I-15/US Hwy. 89	Yes	Yes	Yes
3500 West (SR-108)	Midland Drive	Davis County Line	Yes	Yes	Yes
Harrison Blvd.	400 North	7th Street	Yes	Yes	Yes
Harrison Blvd.	12th Street	US Highway 89	Yes	Yes	Yes
Wall Avenue	2700 North	US-89	Yes	Yes	Yes

MAP VII-2


WASATCH FRONT URBAN AREA SCHOOLS
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Projects on LRP
Projects on LRP
Streets
Elementary
Junior High
Senior High
College
Other
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Housing Goals and Strategies: The Wasatch Front Region of Utah has experienced tremendous growth throughout the past decade. As a result of this growth, the housing market in the area has been very dynamic. While housing construction has generally kept pace with population growth during this period, there have, in some instances, been concerns about the type, location, cost and other issues associated with new housing in the area. The overall cost of housing is an issue that has been receiving particular attention in recent years. During this period of growth, housing price increases in the urbanized Wasatch Front area have been some of the steepest in the county. In response to concerns about rapidly escalating housing costs, the Utah State Legislature in 1996 passed a law requiring local jurisdictions to update the housing elements of their general plans. Specifically, local plans must include an analysis of the need for moderately priced housing in their community and a description of programs and strategies aimed at promoting this type of housing. Many jurisdictions in the Wasatch Front Urban Area have completed this required housing plan update. Others are still in the process of addressing this issue.

At the regional level, housing needs have been evaluated through a number of studies referred to as Comprehensive Housing Affordability Strategies and, more recently broad based Consolidated Plans. These studies are required by the federal Department of Housing and Urban Development (HUD) in order for states and local jurisdictions to continue to make use of various HUD programs and funds. This process has identified general housing needs through extensive analysis of available housing related data, and has developed plans and strategies aimed at meeting these identified needs.

Improvements proposed in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 have been reviewed to determine if there are potential conflicts with local and regional housing goals and strategies. Generally, there appear to be few projects that would present such conflicts. Some widening and/or expansion projects may require a very limited number of dwelling units to be removed. There are, however, two new construction projects that are likely to require more extensive removal of existing residences. These are the Mountain View Corridor (formerly called the Western Transportation Corridor) in western Salt Lake County, and the North Legacy Transportation Corridor (NLTC) in northern Davis and southern Weber Counties. Any projects requiring the removal of homes and relocation of families would be done in accordance with all applicable relocation/replacement policies.

As might be expected in the current climate of relatively high housing costs, meeting the basic housing needs of those with very low incomes and those with special supportive housing needs is a significant concern. Expansion and coordination of area social service programs will likely be required to help meet these types of housing needs. Transportation improvement projects proposed in the 2030 LRP Update would have little direct impact on housing goals or strategies aimed at meeting these needs. However, indirect benefits such as improved access to social service providers or employment opportunities may result from some proposed projects.

Cultural Resources: Highway and transit projects can have positive impacts on cultural resources by improving access to them. Potential negative impacts, however, include noise, the need to relocate housing, and other possible repercussions. The evaluation of the Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030 also considered potential impacts on historic districts. For this study the State Historic Preservation Office felt that to consider individual sites listed on the National and State Historic Registers, or known archaeological sites, would not be appropriate without an in-depth study of each of the project areas.

The Wasatch Front Region has a number of national and city registered historic districts, including University, Exchange Place, South Temple, Avenues, Central City, and Capitol Hill, which are located in Salt Lake City. Four additional Salt Lake City historic districts, Highland Park, Gilmer Park, Warehouse, and Northwest, are nationally registered. Ogden City has two national and city registered historic district, 25th Street and Eccles Avenue. The Jefferson Historic District is nationally registered, and planners at Ogden City are considering the creation of the East Central Bench District. Farmington City has a single state registered historic district, Clark Lane. Copperton, an unincorporated community in Salt Lake County, is listed on the national registry. West Bountiful, Riverton, Midvale, Murray, and Sandy City have older residential and commercial area that might qualify as historic districts and special studies should be initiated to determine if such is possible.

Project evaluations of potential highway or transit facility impacts have focused on historic structures that were at least 50-years old. However, given the time lag between the evaluations and actual construction, buildings that are now 45 years old and meet the appropriate criteria are considered "historic." In fact, even 40-year old buildings are often inventoried and evaluated. This means that much of the post-World War II subdivision development (circa 1945-1960) along the Wasatch Front might qualify for historic designation, depending on their architectural significance and individual integrity. As the majority of designated historic structures and districts are located within the confines of older central cities with established street networks, the Wastach Front Urban Area Long Range Transportation Plan Update: 2004-2030 will not impact directly these important cultural and historic resources.

Specific impacts to all cultural resources will be identified and mitigation measures determined during the environmental phase of the project development process. The Environmental Impact Statement process requires the investigation of all impacts to known cultural resources. If unknown cultural resources are encountered during the project development/construction phase, appropriate investigation and mitigation will take place. Efforts will be made, subject to federal and state policy, to provide mitigation that is easily accessible to the general public. Such mitigation might, for example, include the placement of historical information markers in addition to providing the standard documentation.

ECONOMIC IMPACTS

Transportation improvements can help promote economic growth and activity by reducing travel time and delay. In addition, they can result in benefits to the users through reduced operating costs and accidents. This section discusses the economic benefits of the Wasatch Front Urban Area Long range Transportation Plan Update: 2004- 2030.

Traffic conditions in 2030 were forecast assuming the full implementation of the Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030. Based on these forecasted traffic conditions, total vehicle miles of travel (VMT), peak speed, vehicle hours, and operating costs were projected. Specific economic factors, such as fuel consumption, vehicle operating costs, vehicle accidents, and energy consumption for the year 2030 were then analyzed and compared with the other milestone years of 2001 and 2008. The results of this analysis are shown in Table VII-3, "Wasatch Front Urban Area Modeled Traffic Related Economic Factors Average Weekday Statistics."

Table VII-3

WASATCH FRONT URBAN AREA
MODELED TRAFFIC RELATED ECONOMIC FACTORS
AVERAGE WEEKDAY STATISTICS

TRAFFIC FACTORS	2001 SYSTEM	2008 EXISTING AND COMMITTED SYSTEM	2030 LONG RANGE PLAN
Total Vehicles Miles Traveled	34,500,000	40,500,000	61,000,000
Peak Speed (MPH)	31	30	27
Total Vehicle Hours	900,000	1,100,000	1,700,000
Operating Cost	$10,867,500	$12,757,500	$19,215,000
Gallons of Gasoline	1,568,025	1,840,725	2,772,450

Fuel Consumption: With increases in the number of vehicles on the road in both the Salt Lake and Ogden/Layton Urbanized Areas, the amount of fuel consumed will increase correspondingly. Given the assumption of 22 mile per gallon fuel efficiency (22 mpg was used for comparison purposes only and does not reflect actual future fuel economy), and somewhat lower projected average system speeds, the amount of fuel consumed daily by 2030 in the Salt Lake and Ogden/Layton Urbanized Areas will increase by about 1,090,800 gallons per day, or 61 percent over the 2008 existing and committed system.

Operating Costs: Vehicle operating costs are a function of vehicle miles traveled. They include fuel and oil costs, maintenance, vehicle depreciation costs, insurance, and taxes (31.5 cents per VMT was used for comparison purposes only and does not reflect actual future operating costs). As Table VII-11 above shows, total vehicle operating costs will increase by 2030 due to increases in the total travel. However, some savings in operating costs per vehicle are likely with the reduced congestion and more efficient travel afforded by the capacity improvements of the 2030 LRP Update in comparison with the existing and committed system.

Accidents: While no detailed analysis of the each new highway project was conducted, the 2030 LRP Update should result in a reduction of accidents in comparison with the existing plus committed system. Existing undivided arterials with high accident rates will be upgraded, resulting in a reduction in rates for these streets. Also, the recommended improvements in the Plan particularly those on the Legacy Parkway, I-15, the Western Transportation Corridor, and U.S. Highway 89 should further reduce congestion, eliminate weaving, and therefore, reduce accidents.

Energy: One of the goals of the 2030 LRP Update is to minimize energy consumption by reducing congestion, increasing average speeds, and reducing the miles of travel as compared to not making the planned improvements. The State of Utah has also established goals related to energy conservation. The state energy conservation policy related to transportation is directed through the State of Utah Division of Energy. Several elements are required to be investigated by the Division of Energy under the Energy Conservation Program, one of which is transportation. The State Division of Energy has identified program measures dealing with energy conservation in transportation.

The programs include: rideshare, driver training, alternative fuels, truck and bus monitoring of savings, and right-turn-on-red. An outline of the program specific objectives are:

1. Rideshare: (Carpool/Vanpool)
   -Increase the rideshare base
   -Computer matching of participants
   -Employer rideshare contracts
   -Rideshare media promotion
- Driver Training
   -Increased awareness of vehicle operation and maintenance
- Bus and Truck Savings
   -Increased awareness of vehicle operation and maintenance
- Right-Turn-On-Red
   -Increased awareness of availability and use

Again, the Wasatch Front Long Range Transportation Plan Update: 2004-2030 supports the State of Utah's goals for energy use reduction and recommends that its programs continue into the future.

ENVIRONMENTAL IMPACTS

New transportation projects and improvements to existing facilities help address projected need for greater highway and transit capacity in the Salt Lake and Ogden/Layton Urbanized Areas. However, these projects can have environmental impacts as a result of construction and operation. The effects of the 2030 LRP Update on various aspects of the environment were examined. In particular, the Plan's effect on general air quality, noise, water quality, wetlands, waterbodies and floodplains, farmland and sensitive species are examined and evaluated. Site specific impacts will need to be investigated in detail during the National Environmental Policy Act's (NEPA) processes. Most new construction and transit improvement projects that receive federal funding require, at a minimum, a detailed environment assessment (EA), which outlines the social, economic and environmental impacts of various project alternatives considered. The preparation and approval of a Draft and a Final Environmental Impact Statement are required if environmental and social impacts for a transportation project are deemed "significant."

Noise: Roadway noise impacts vary based on traffic, roadway, and adjacent land use characteristics. The relevant traffic characteristics are the traffic volume, speed, and vehicle mix. The roadway characteristics affecting noise include grades and the presence or absence of noise barriers. Also important are the noise sensitivity of adjacent land uses, the distance between the roadway and the land use, and the design and construction of affected buildings.

A majority of projects in the 2030 LRP Update will have relatively minor or no impact on existing developed areas. However, listed in Tables VII-4 and VII-5 are some projects, primarily interstate highways, and principal and minor arterials, which have the greatest potential for noise impacts on adjacent communities located in the Salt Lake and Ogden/Layton Urbanized Areas. In addition, some mass transit projects, such as commuter rail through Weber, Davis, and Salt Lake Counties, could also affect noise sensitive receptors adjacent to their corridors. These projects pass through identified residential areas and are relatively high-speed, high-volume facilities.

Specific project noise impact assessments and mitigation measures will be determined at a later date during project design. Noise effects may be mitigated by shifting the highway alignment away from noise sensitive land uses, depressing the roadway, or installing noise barriers between the highway and the sensitive areas. Similar mitigation measures can be implemented for light rail and commuter transit systems that have the potential for noise impacts.

Noise barriers are most frequently and reasonably incorporated into limited access highways. Noise mitigation is less effective or not effective for projects which are not limited access, since land access, such as driveways, would render mitigation ineffective. As a matter of UDOT policy, noise mitigation will not be incorporated into certain sections of these projects where local government has not already approved development, such as a final subdivision plat, at the time these highway facilities are started for construction. Therefore, the affected local governments should require new developments to consider the noise effects of existing adjacent and planned highway facilities during the development approval process. These considerations include proper setback distances from the noise source, and walls or berms between the noise source and receptor.

Table VII-4

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL NOISE IMPACTS

STREET	FROM	TO
Interstate 80	State Street	Parley's Canyon
2100 So. Frwy. (SR-201)	I-15	WTC
3500 South	4000 West	5600 West
4500 South	700 East	2300 East
4700 South	Interstate 15	Redwood Road
4700 South	4000 West	Western Transportation Corridor
9000/9400 South	700 East	1300 East
9400 South	2100 East	Wasatch Blvd.
9000 South	Bangerter Highway	New Bingham Highway
10400 South	Redwood Road	Bangerter Highway
11400 South	Interstate 15	Bangerter Highway
11400/11800 South	Bangerter Highway	SR-111
12300/12600 South	900 East	SR-111
13400 South	Bangerter Highway	Western Transportation Corridor
Main Street	4400 South	Vine Street
Main Street/300 West	5200 South	7200 South
State Street	7200 South	11400 South
700 East	9400 South	12300 South
900 East	2900 South	4500 South

Table VII-4 (Continued)

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL NOISE IMPACTS

STREET	FROM	TO
900 East	Van Winkle Expressway	6600 South
Highland Drive	9400 South	13800 South
Highland Drive (Draper)	Interstate-15 @ Bangerter Hwy.	Highland Drive
Redwood Road	9000 South	Bangerter Highway
5600 West	4700 South	6200 South
Western Transportation Corridor	2100 South	Redwood Road
Interstate-15	10600 South	Utah/Salt Lake County Line
500 South (Davis Co.)	I-15	Redwood Road
Interstate 15	US Highway 89 (Farmington)	600 North (SLC)
Legacy Parkway	US Highway 89 (Farmington)	Interstate 215 (North Salt Lake)

Table VII-5

OGDEN/LAYTON URBANIZED AREA
PROJECTS WITH POTENTIAL NOISE IMPACTS

STREET	FROM	TO
1800 North (Clinton)	2000 West	5000 West
Syracuse Road (SR-108/127)	Freeport Center	4500 West
Hill Field Road Extension	Angel Street	3200 West
Gordon Avenue (1000 No.)	1600 East	US Highway 89
Gentile Street (Layton)	SR-126	1350 East (Oakhills Drive)
Oakhills Dr. (SR-109)	1350 East	US Highway 89
Main Street	200 North (Kaysville)	I-15 (Layton)
2000 West	Syracuse Road (SR-108)	Weber County Line
US Highway 89	Interstate 15 (Farmington)	Harrison Boulevard
2700 North (SR-134)	1900 West	400 East (No. Ogden)
12th Street (SR-39)	1200 West	Wall Avenue
30th Street	Wall Avenue	Harrison Boulevard
Midland Drive	SR-126@SR-79	3500 West (Roy)
4700 West	4000 South	4800 South
Monroe Boulevard	1300 North	2850 North
1200 West	12th Street	400 North
1900 West (SR-126)	Weber River	12th Street
300 West	Riverdale Road	4800 South
Harrison Boulevard	12th Street	US Highway 89
Riverdale Road (SR-26)	SR-126	Wall Avenue
Interstate-15	31st Street	2700 North

Water Quality: The Clean Water Act, the State's Non-Point Source Management Plan, and various other governmental regulations require the monitoring of water resource impacts and management in the urbanized areas. A roadway project's water quality impacts generally depends on traffic volumes, pavement width additions, and the aquifer recharge capability of the surrounding soils. Water quality is affected by the amount of oil and other hazardous materials from cars that are deposited on the roadway and subsequently washed into the watershed with the next rainfall. The amount of pavement added roughly correlates with increased road salt and other solvents in the winter. The aquifer recharge capability of the soils surrounding the project and the project's proximity to a well recharge area is indicative of the likelihood of roadway runoff contaminating drinking water. Listed in Tables VII-6 and VII-7, are 2030 LRP Update projects that were deemed to have potential impacts on water quality.

Table VII-6

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL WATER QUALITY IMPACTS

STREET	FROM	TO
California Avenue	4800 West	Western Transportation Corridor
Interstate 80	State Street	Parley's Canyon
2100 South Freeway (SR-201)	Jordan River	8400 West
3500 South	4000 West	7200 West
4500 South	700 East	2300 East
4700 South	4000 West	Western Transportation Corridor
7800 South	Bangerter Highway	Western Transportation Corridor
9400 South	2100 East	Wasatch Blvd.
9000 South	Bangerter Highway	New Bingham Highway
9800/10000 South	Interstate 15	Redwood Road
11400 South	Interstate 15	Bangerter Highway
12300/12600 South	900 East	SR-111
13400 South	Bangerter Highway	Western Transportation Corridor
Interstate-15	Beck Street	600 North
Interstate-15	10600 South	Utah/SLCo Line
Interstate-215	I-80 (west side)	300 East
700 East	10600 South	12300 South
Highland Drive	9400 South	13800 South
Highland Drive Connection	I-15 at Bangerter Highway	Highland Drive@13800 So.
Wasatch Blvd.	7000 South	Little Cottonwood Road
Redwood Road	Davis/SLCo. Line	1000 North
Redwood Road	9000 South	Bangerter Highway
5600 West	4700 South	6200 South
Western Transportation Corridor	Interstate 80	Redwood Road
8400 West/SR-111	SR-201	11800 South
Porter Rockwell Road	I-15/14600 South Interchange	Redwood Road
500 South (West Bountiful)	I-15	Redwood Road
Redwood Road	500 South (Davis Co.)	Salt Lake/Davis Co. Line
Interstate 15	US Highway 89	Beck Street
Legacy Parkway	US Highway 89/I-15	Interstate-215

Table VII-7

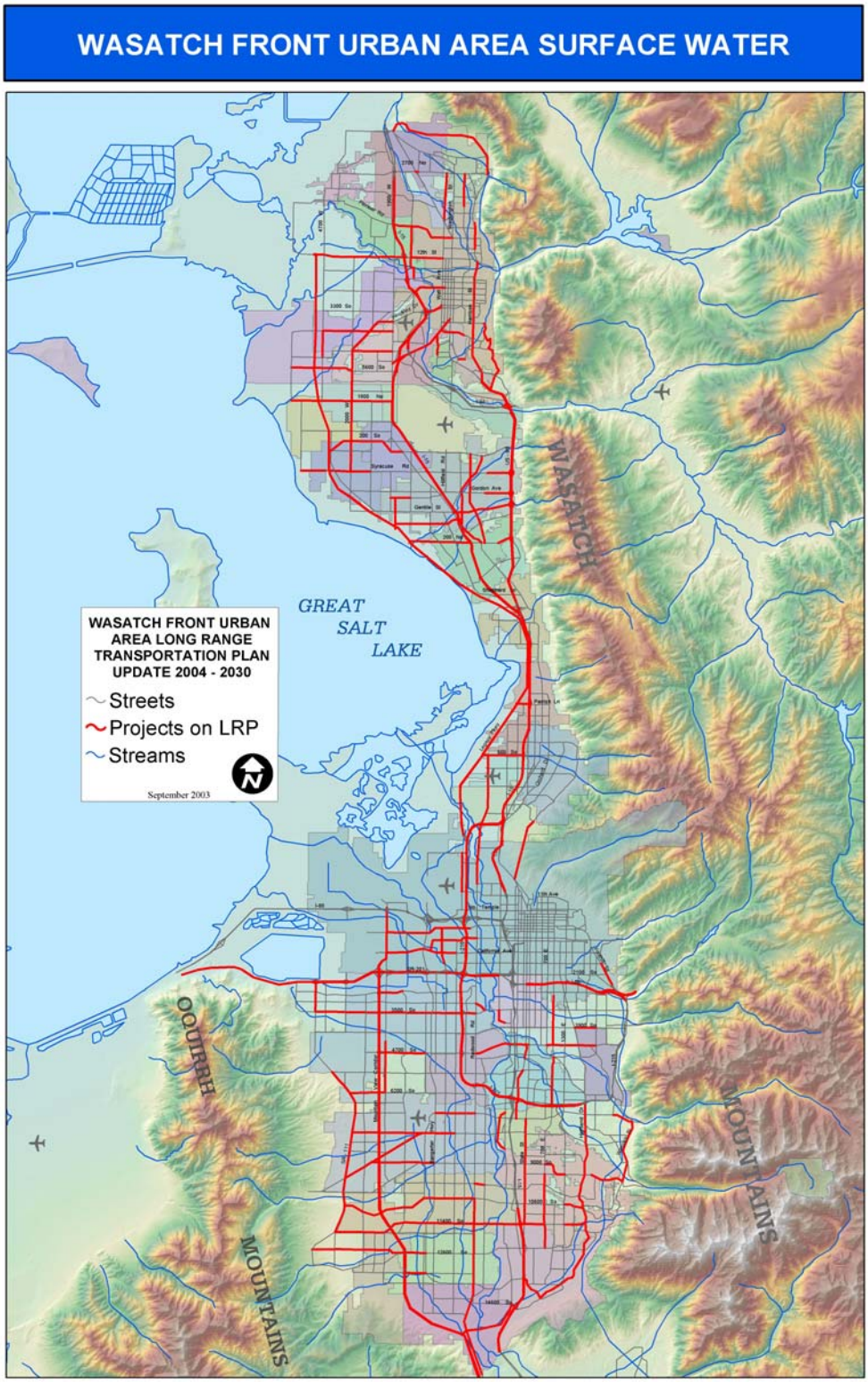
OGDEN/LAYTON URBANIZED AREA
PROJECTS WITH POTENTIAL WATER QUALITY IMPACTS

STREET	FROM	TO
200 South (Syracuse)	200 West	4500 West
Syracuse Road	Freeport Center	4500 West
Hill Field Road Extension	Angel Street	Bluff Road
200 South	500 West (Clearfield)	1000 West
Antelope Drive	2200 East	US Highway 89
Gordon Avenue	1600 East	US Highway 89
200 North (Kaysville)	700 East	US Highway 89
Main Street	200 North (Kaysville)	Interstate 15 (Layton)
US Highway 89	Interstate 15 (Farmington)	Harrison Blvd.
N. Legacy Trans. Corridor	Weber/Davis County Line	I-15 (Farmington)
2700 North (SR-134)	1900 West (SR-126)	400 East (N. Ogden)
12th Street	1200 West	Wall Avenue
Hinckley Drive	Interstate 15	Wall Avenue
Hinckley Drive Extension	1900 West	Midland Drive
30th Street	Wall Avenue	Harrison Blvd.
Midland Drive (SR-108)	SR-126@ SR-79	3500 West (Roy)
4700 West	4000 South	4800 South
Monroe Boulevard	1300 North	2850 North
1100 / 1200 West	Weber River	17th Street
1200 West	17th Street	400 North
1900 West (SR-126)	Weber River	12th Street
300 West	Riverdale Road	4400 South
3500 West (SR-108)	Midland Drive	Weber/Davis County Line
Harrison Blvd.	400 North	7th Street
Harrison Blvd.	12th Street	US Highway 89
Riverdale Road	1900 West (SR-126)	Washington Blvd.
Skyline Drive	US Highway 89	Country Hills Drive
Interstate-15	2700 North	Hill Field Road (SR-232)

The projects listed in the above tables are planned to have relatively large roadway surface areas, require the addition of at least two lanes, have at least 100 feet of right-of-way, and are located in the relative proximity of a perennial stream, canal, lake, well, or aquifer recharge area.

Specific project water quality impact assessments and mitigation measures will be determined during the environmental phase of the individual project development process. During project design, settling ponds or storm water removal facilities may be used to limit the introduction of hazardous material seepage into important ground water. Map VII-3 shows the major surface water features located within the Wasatch Front Urban Area.

Map VII-3


WASATCH FRONT URBAN AREA SURFACE WATER
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Streets
Projects on LRP
Streams
September 2003
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS
OQUIRRH MOUNTAINS

Wetlands: Wetlands are areas able to support vegetation adapted for life in water saturated soils. Wetlands can be generally defined as vegetated aquatic areas, such as bogs, marshes, swamps, and prairie potholes. Jurisdictional wetlands are those wetlands which are within the extent of the Corps of Engineers' regulatory overview. Large, intact wetlands serve critical environmental functions, including flood control, water purification, and the provision of habitat for fish and wildlife. The significance of roadway wetland impacts varies based on wetland characteristics such as whether the wetlands are jurisdictional or not, the size of the wetlands area, and the level to which the wetlands have already been disturbed by human development. A project may generally impact wetlands by providing a barrier between adjacent wetland areas or by encroaching upon a single wetland area. Tables VII-8 and VII-9 list those the projects in the Salt Lake and Ogden/Layton Urbanized Areas that have the potential to impact wetland areas.

Table VII-8

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL WETLAND IMPACTS

STREET	FROM	TO	WETLAND IMPACTED
500/700 South	Surplus Canal	Western Transp. Cor.	W. Salt Lake Low Areas
Indiana Avenue	Pioneer Road	California Avenue	Surplus Canal
California Avenue	Pioneer Road	4800 West	W. Salt Lake Low Areas
4700 South	Interstate-15	Redwood Road	Jordan River Complex
9800/10000 South	Interstate 15	Redwood Road	Jordan River Complex
10400/10600 South	Interstate 15	Redwood Road	Jordan River Complex
11400 South	Interstate 15	Bangerter Highway	Jordan River Complex
12300/12600 South	900 East	Bangerter Highway	Jordan River Complex
900 West	3300 South	3900 South	Jordan River Complex
Redwood Road	Davis County Line	1000 North	G.S.L. Complex/Jordan R.
2200 West	2200 North	700 North	Great Salt Lake Complex
Gladiola	500 South	California Avenue	W. Salt Lake Low Areas
Porter Rockwell Rd.	W. Frontage Rd.	Redwood Road	Jordan River Complex
Western Trans. Corr.	Interstate-80	2100 South	W. Salt Lake Low Areas
500 South (Davis Co.)	Interstate-15	Redwood Road	Great Salt Lake Complex
Interstate-15	Interstate-215	Beck Street	Great Salt Lake Complex
Interstate-15	U.S. Highway 89	500 South (Davis Co.)	Great Salt Lake Complex
Redwood Road	500 South (Davis Co.)	S.L./Davis Co. Line	Great Salt Lake Complex
Legacy Parkway	US Highway 89	Interstate-215	Great Salt Lake Complex

The projects of the 2030 LRP Update that were deemed to have potential impacts on wetlands were those for which new construction or a widening of two or more lanes is planned, and which would traverse, or be in close proximity to, the wetlands identified by the U.S. Fish and Wildlife Service's National Wetlands Inventory. The National Wetlands Inventory, which is based on aerial photography and did not include site sampling, includes both jurisdictional and non-jurisdictional wetlands in Utah and throughout the United States. The degree of impact for the projects listed as having potential for

impacting wetlands will depend on the amount of right-of-way required. Projects requiring a considerable amount of right-of-way would have more impact, and those requiring minimal, or no new right-of-way, would have less, or no impact on wetlands.

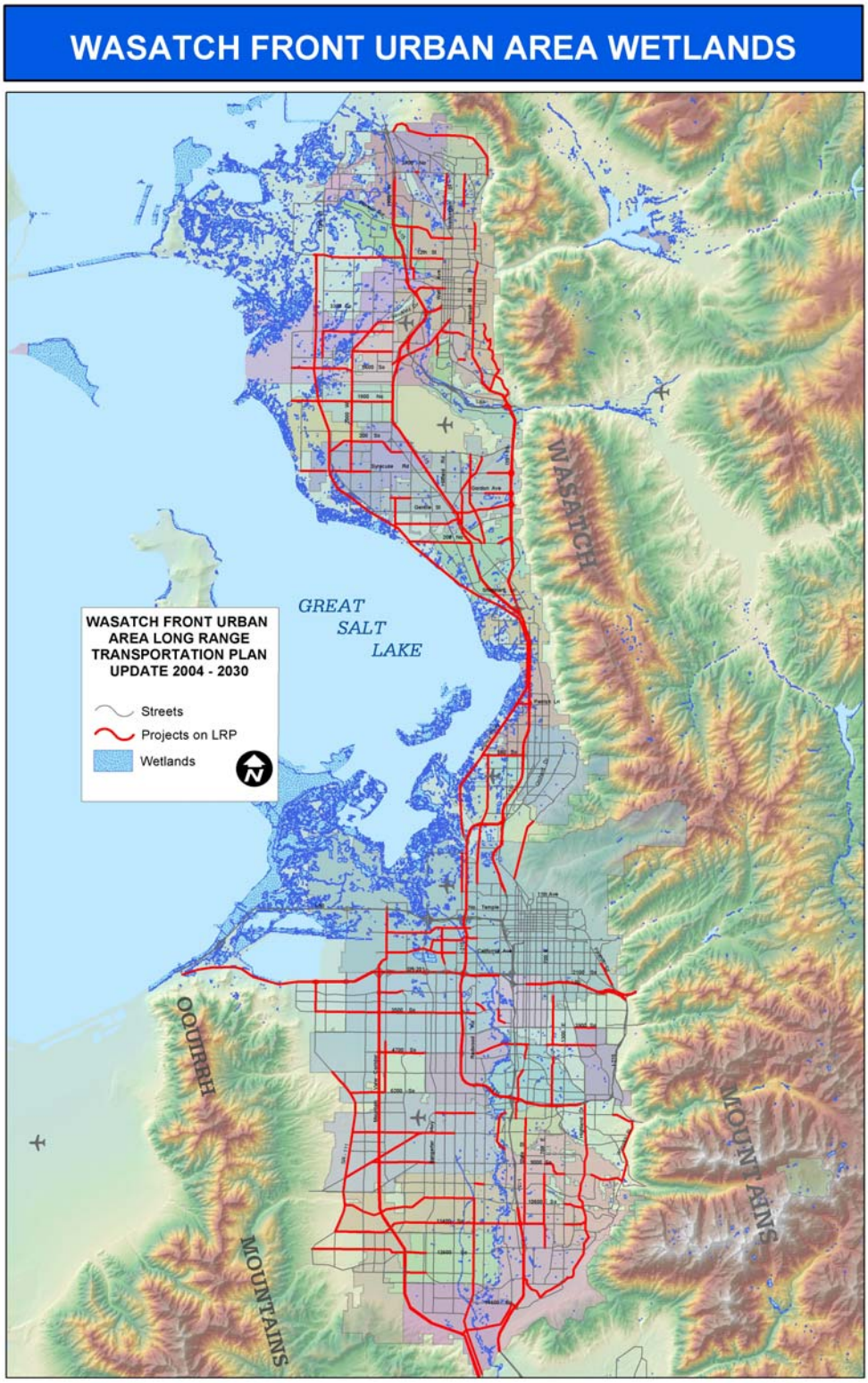
Table VII-9

OGDEN/LAYTON URBANIZED AREA
PROJECTS WITH POTENTIAL WETLAND IMPACTS

STREET	FROM	TO	WETLAND IMPACTED
1800 North	2000 West	5000 West	Great Salt Lake Complex
200/700 South Conn	1000 West	North Legacy Corridor	Great Salt Lake Complex
Syracuse Road (SR-108)	Freeport Center	4500 West	Great Salt Lake Complex
Hill Field Road Ext	Angel Street	3200 West	Wet area
Gordon Avenue	1600 East	U.S. Highway 89	Wet area
200 North (Kaysv.)	700 East	U.S. Highway 89	Wet area
Fairfield Road	200 North (Kaysville)	SR-193	Kays Creek/Riparian
Legacy Parkway	U.S. Highway 89	5500 South (Roy)	Great Salt Lake Complex
US Highway 89	Interstate 15 (Farmington)	Harrison Blvd.	Numerous creeks
2700 North	US Highway 89	400 East (North Ogden)	Wet meadow
Hinckley Drive	Interstate-15	Wall Avenue	Weber River/Riparian
Midland Drive (SR-108)	SR-126@SR-79	3500 West (Roy)	Wet area/Canals
5500 South	3500 West (Roy)	5900 West (Hooper)	Great Salt Lake Complex
4000 South	1900 West (Roy)	4700 West (West Haven)	Wet meadow
5500 South	3500 West (Roy)	5900 West (Hooper)	Wet meadow/riparian
4700 West	4000 South	4800 South	Wet meadow
Monroe Blvd.	1300 North	2850 North	Riparian
1100 West	20th Street	Weber River	Weber River/Riparian
1100/1200 West	Weber River	1700 South	Weber River/Riparian
1900 West (SR-126)	Weber River	12th Street	Weber River/Riparian
3500 West	Midland Drive	Weber/Davis Co. Line	Wet Area/Canals
Riverdale Road (SR-26)	1900 West (SR-126)	Wall Avenue	Weber River/Riparian
Interstate-15	31st Street	12th Street	Weber River/Riparian

Relative to the above projects, consideration should first be given to impact avoidance. Specific jurisdictional wetland impact assessments and mitigation measures will be determined during the environmental evaluation and review phase of the project development process. Wetland impacts may be avoided or minimized by shifting the roadway alignment away from wetlands, replacing lost wetlands, banking wetlands, and/or using no access lines to restrict accompanying land development. Potential wetland areas within the Wasatch Front Urban Area are shown as Map VII-4.

Map VII-4


WASATCH FRONT URBAN AREA WETLANDS
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Streets
Projects on LRP
Wetlands
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Farmland: The Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030 recommended highway improvements can have impacts on farmland by requiring rights-of-way in agricultural land uses. In the Urbanized Areas, much of the Prime Farmland, and Farmland of Statewide Importance have already been developed, or are quickly being developed. Examples of this are lands in Salt Lake County between SR-111 on the west and the Union Pacific Railroad tracks on the east, which were designated in 1979 as prime farmland or farmland of statewide importance. In southern Davis County, a 1978 Soil Conservation Service map designated much of Centerville, west Farmington, and parts of West Bountiful as prime agricultural land. Much of this land has been, or is planned to be, developed. In Weber County, a considerable amount of the prime agricultural land is located between I-15 and the wetlands of the Great Salt Lake. Much of this land has been converted to urban use, and those agricultural lands that remain are currently under substantial development pressure due to the relatively rapid urban growth that has occurred, and is currently occurring in the area.

The prime farmlands of the Wasatch Front Region are those lands with high quality soil, reliable water, and fewer than 30 dwelling units per 40-acre area, that are not currently designated for urban use. Farmlands of Statewide Importance have the potential of becoming as productive as prime farmlands, with the addition of irrigation and other improvements. For the purpose of this report, lands currently within an incorporated city, which are not zoned for agricultural or open space preservation, are presumed to be urban or designated for future urban use.

With the exception of new roadway construction and right-of-way acquisition projects, the extent of direct farmland impacts due to 2030 LRP Update improvements is relatively minor. New roadways, however, often require greater amounts of right-of-way and have the potential for greater farmland impacts. Also, new roadways have indirect impacts by making it possible for farmlands to be affected by other urban uses. Specific new construction and right-of-way acquisition projects with the potential of impacting farmlands in the Salt Lake Urbanized Area are found in Table VII-10. The distribution of farmlands along the Wasatch Front Region are graphically shown in Map VII-5. Recommended highway projects that may affect prime farmland in Ogden/Layton Urbanized Area are listed in Table VII-11.

Table VII-10

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL FARMLAND IMPACTS

STREET	FROM	TO
6200 South	5600 West	SR-111
7800 South	2700 West	SR-111
10400 South	Redwood Road	SR-111
11400/11800 South	State Street	SR-111
12600 South	Bangerter Highway	SR-111
13400 South	Bangerter Highway	Mountain View Corridor
Porter Rockwell Road	I-15 W. Frontage Road	Redwood Road
Highland Drive	Ft. Union Blvd.	13800 South

Map VII-5

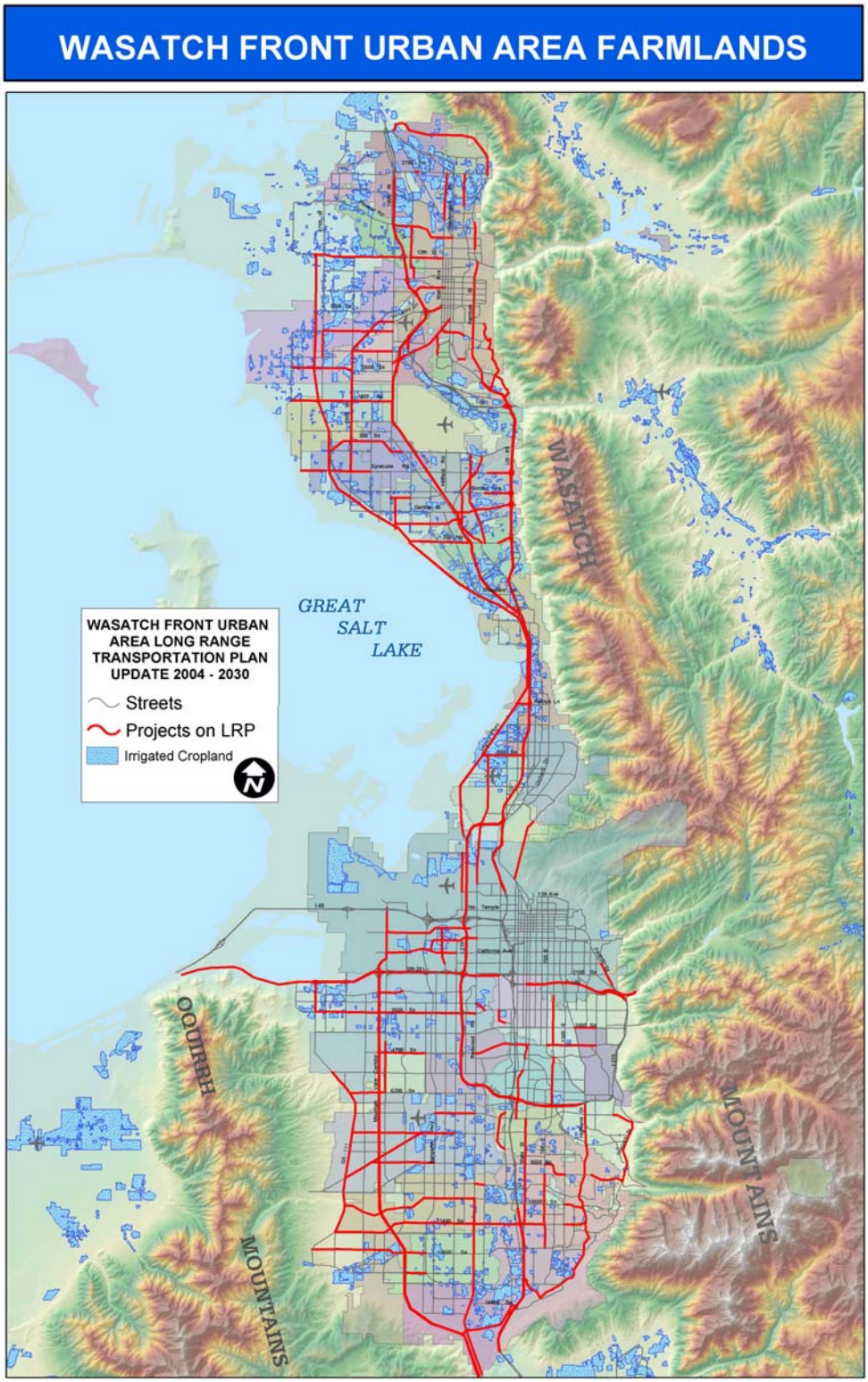

WASATCH FRONT URBAN AREA FARMLANDS
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Streets
Projects on LRP
Irrigated Cropland
N
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Table VII-11

OGDEN/LAYTON URBANIZED AREA
PROJECTS WITH POTENTIAL FARMLAND IMPACTS

STREET	FROM	TO
Legacy Parkway	I-15/US Highway 89	Interstate-215
1800 North (Clinton)	Main Street	5000 West
Syracuse Road (SR-108)	1000 West	4500 West
Hill Field Road Extension	2200 West	3200 West
Gordon Avenue (1000 North)	1600 East	US Highway 89
Oakhills Dr. (SR-109)	1350 East	US Highway 89
US Highway 89	I-15 (Farmington)	Harrison Blvd.
Fairfield Road	200 North (Kaysville)	SR-193
2000 West	Syracuse Road	Weber/Davis Co. Line
North Legacy Transp. Corridor	I-15/US Highway 89 (Farmington)	5500 South (Roy)
4700 West	4000 South	4800 South
Monroe Boulevard	1300 North	2700 North
Wall Avenue	2700 North	US Highway 89
1200 West	20th Street	400 North

Sensitive Species: The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 was evaluated to determine potential impacts on endangered and threatened species known to occur in Salt Lake, Davis, and Weber Counties. Bald eagles are known to feed near the Great Salt Lake. The proposed North Legacy Transportation Corridor could possibly affect their habitat. Peregrine falcons nest in downtown Salt Lake City and along the cliffs north of Salt Lake City. The proposed Bountiful Boulevard extension could impact these nesting sites. In both cases, specific impacts will need to be mitigated during project development.

Waterbody/Floodplain Modification: Natural water bodies and floodplains help to moderate flooding and accommodate erosion in a river. Projects can impact a water body by disturbing ground within 20 feet of natural or semi-natural rivers and streams, realigning or channeling meandering rivers and streams, placing obstructions in floodplains, and constructing in unstable floodplain crossings. Specific impact assessments and mitigation measures will be made during the environmental evaluation and review phase of the project development process. Tables VII-12 and VII-13 list those projects that were identified as crossing significant creeks and rivers in the Salt Lake and Ogden Urbanized Areas.

The Army Corps of Engineers (COE) District Office has indicated in the past that the Jordan River was of particular concern to them in the Salt Lake Valley, and urged that new crossings of the Jordan River be avoided, or minimized whenever possible. All the potential stream crossings and conflicts were not identified in the waterbody/floodplain evaluation. The numerous smaller streams from the surrounding mountains were not considered in the evaluation, as they, along with the others, will be evaluated at a later time in more detail during the Environmental Impact Statement phase of project development. Map VII-3 on Page 154 shows the distribution of surface waterbodies within the Wasatch Front Urban Area.

Table VII-12

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL
WATERBODY/FLOODPLAIN IMPACTS

STREET	FROM	TO	WATERBODY / FLOODPLAIN
500/700 South	Surplus Canal	Mountain View Corridor	Ridgeland Canal, Brighton Canal, Goggin Drain, Surplus Canal
Indiana Avenue	Redwood Rd.	California Av.	Brighton Canal, Surplus Canal
California Avenue	Pioneer Road	Mountain View Corridor	Ridgeland Canal, Brighton Canal
Interstate-80	State Street	Parley's Canyon	Parley's Creek
2100 South Freeway (SR-201)	Jordan River (900 West)	Mountain View Corridor	Ridgeland Canal, Brighton Canal, Jordan River
4500/4700 South	State Street	Redwood Road	Jordan River
7800 South	2700 West	Mountain View Corridor	Provo Reservoir Canal, Salt Lake Canal
9000 South	Bangerter Hwy.	New Bingham Hwy	Provo Reservoir Canal
9400 South	2100 East	Wasatch Blvd.	Upper Canal
10400/10600 South	Redwood Road	SR-111	Salt Lake Canal, other canals to west
11400/11800 South	700 West	SR-111	Salt Lake Canal, Jordan River, Rose Creek
12600 South	Bangerter	SR-111	Salt Lake Canal, Rose Creek
13400 South	Bangerter Hwy.	Mountain View Corridor	Wood Hollow Cr., Provo Reservoir Canal
Interstate-15	10600 South	S.L./Utah Co. Line	Irrigation Canal
Interstate-215 (west)	Interstate-80	300 East	Surplus Canal, Jordan River
Main Street	4400 South	Vine Street	Little Cottonwood Creek
900 East	2900 South	4500 South	Millcreek
900 East	Van Winkle Expw.	6600 South	Little Cottonwood Creek
Highland Drive	Ft. Union Blvd.	13800 South	Irrigation Canal
Wasatch Blvd.	7000 South	Little Cottonwood Rd.	Little Cottonwood Creek
Redwood Road	1000 North	S.L./Davis County Line	Jordan River
Mountain View Corridor	Interstate-80	S.L./Utah Co. Line	Brighton Canal, Ridgeland Canal, Riter Canal, Salt Lake Canal, Barney's Creek, Bingham Creek, Rose Creek, Wood Hollow, Provo Reservoir Canal
SR-111	5400 South	11800 South	Barney's Creek, Bingham Creek
1300 East	Van Winkel Expw.	5900 South	Little Cottonwood Creek
Porter Rockwell Rd.	Redwood Road	I-15/14600 So. Interch.	Jordan River, Irrigation Canal

Table VII-13

OGDEN/LAYTON URBANIZED AREA
PROJECTS WITH POTENTIAL
WATERBODY / FLOODPLAIN IMPACTS

STREET	FROM	TO	WATERBODY / FLOODPLAIN
Legacy Parkway	I-15/US Highway 89	Interstate-215	Great Salt Lake, Numerous Creeks
1800 North (Clinton)	Main Street	5000 West	Hooper Canal
Gentile St. (Layton)	Fairfield Road	1350 East	Kays Creek
Oakhills Dr. (SR-109)	1350 East	US Highway 89	Holmes Creek
200 North	N. Legacy Parkway	Interstate 15	Holmes Creek
Main Street	200 North (Kaysville)	Interstate 15 (Layton)	Holmes Creek
Fort Lane	Main Street	Gordon Avenue	Kays Creek
Fairfield Road	200 North (Kaysville)	SR-193	Kays Creek, Holmes Creek
N. Legacy Parkway	I-15/US Hwy. 89 (Farmington)	5500 South (Roy)	Farmington Creek, Holmes Creek, Kays Creek, Hooper Canal
US Highway 89 and Interchanges	Interstate 15 (Farmington)	Harrison Blvd.	Haight Creek, Holmes Creek and its forks, Snow Creek, Kays Creek and its forks, Weber-Davis Canal, and Weber River
Hinckley Drive	Interstate 15	Wall Avenue	Weber River
4000 South	1900 West (SR-126, Roy)	4700 West (West Haven)	Hooper Canal
Monroe Blvd.	1300 North	2700 North	North Ogden Canal
1100 W./1200 W.	20th Street	400 North	Weber River
Harrison Blvd.	12th Street	US Highway 89	Ogden River and several canyon creeks
Riverdale Road	SR-126	Washington Blvd.	Weber River
Interstate-15	2700 West	Hill Field Road	Weber River, N. Bench West Weber Canal
Wall Avenue	US Highway 89	2700 North	Western Canal

Hazardous Waste: The potential for hazardous waste in project rights-of-way in the 2030 LRP Update is a concern in the siting of transportation projects, because the purchase of a contaminated site or possibly even the purchase of property split from a contaminated parcel may result in the public agency purchasing the property becoming financially liable for hazardous waste clean-up. This liability, if it falls to the transportation agency, could be both costly and create significant financial burdens and project delays.

To identify projects which potentially could conflict with hazardous waste sites, the WFRC compared the location of the 2030 LRP Update projects with the location of hazardous waste sites listed in the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) that appear to be in, or in very close proximity to, the right-of-way of the Plan projects. CERCLIS is the data base used by the Environmental Protection Agency (EPA) to track Superfund progress at potential and confirmed hazardous waste sites. Inclusion in CERCLIS simply means EPA has been notified of the possibility of some release of hazardous substance to the environment, thereby triggering the need for a preliminary assessment. The potentially impacted projects in both the Salt Lake and Ogden/Layton Urbanized Areas are listed in Table VII-14 and VII-15 respectively. The distribution of CERCLIS sites are shown in Map VII-6.

Table VII-14

SALT LAKE URBANIZED AREA
PROJECTS WITH POTENTIAL CONFLICT WITH
HAZARDOUS WASTE SITES

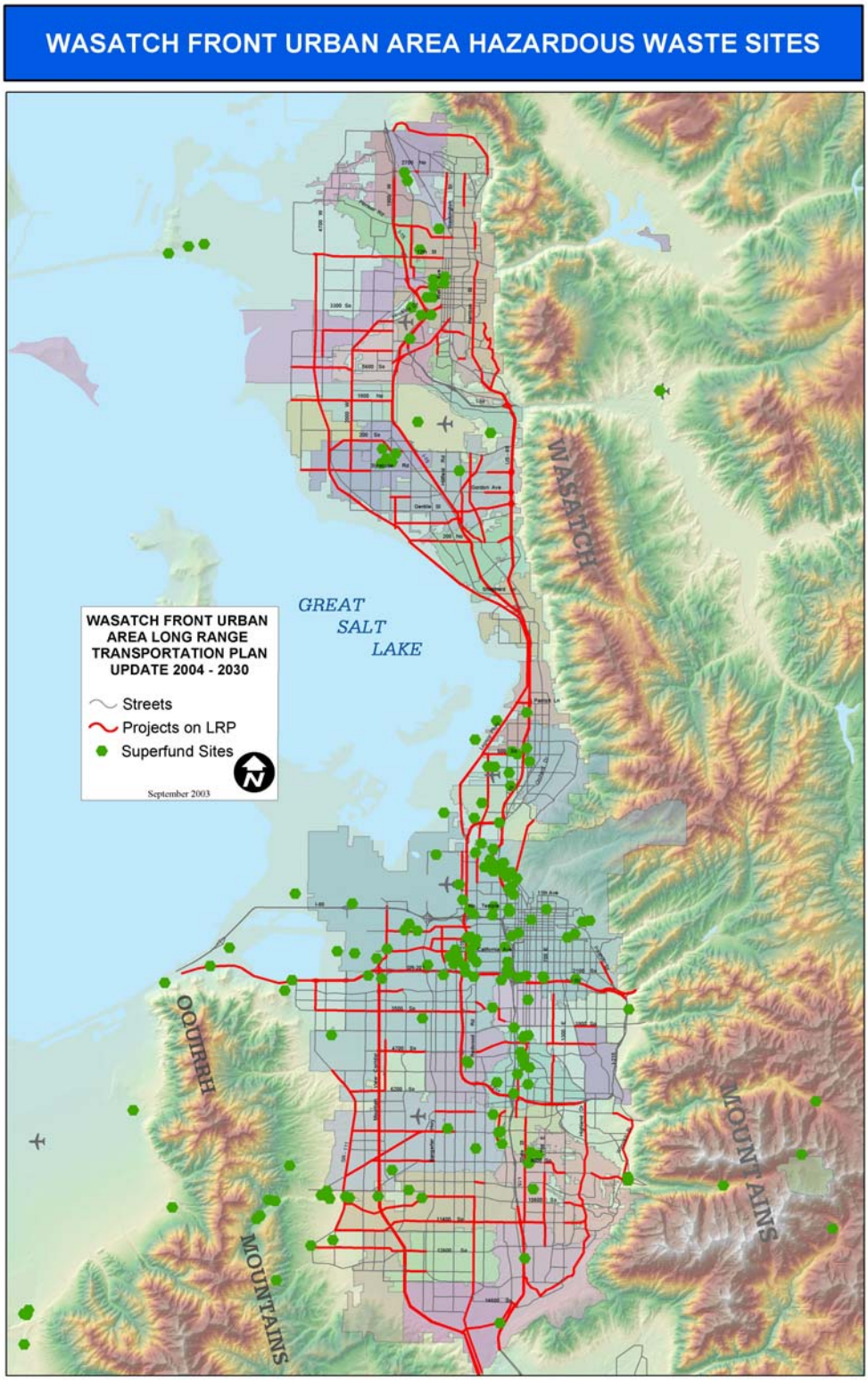
STREET	FROM	TO
500/700 South	Surplus Canal	Mountain View Corridor
Indiana Avenue	Redwood Road	California Avenue
California Avenue	Redwood Road	Mountain View Corridor
2100 So. Freeway (SR-201)	Jordan River	Mountain View Corridor
Interstate-80	State Street	Parley's Canyon
Interstate-15	I-215	600 North
Redwood Road	Davis County Line	1000 North
2200 West	2200 North	700 North
Interstate-15	10600 South	S.L./Utah Co. Line
State Street	7200 South	11400 South
Bingham Junction Blvd.	6800 South	8400 South
Mountain View Corridor	I-80	Utah County Line
SR-111	5400 South	11800 South

Table VII-15

OGDEN/LAYTON URBANIZED AREA
PROJECTS WITH POTENTIAL CONFLICT WITH
HAZARDOUS WASTE SITES

STREET	FROM	TO
Legacy Parkway	US Highway 89	Interstate 215
Hinckley Drive	Interstate-15	Wall Avenue

Map VII-6


WASATCH FRONT URBAN AREA HAZARDOUS WASTE SITES
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Streets
Projects on LRP
Superfund Sites
September 2003
GREAT SALT LAKE
WASATCH
OQUIRRH MOUNTAINS
MOUNTAINS

ENVIRONMENTAL JUSTICE

Environmental Justice embraces the principle that all people and communities are entitled to equal protection under our nation's environmental, health, employment, housing, transportation, and civil rights laws. On February 11, 1994, President Clinton signed Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This order augments Title VI of the Civil Rights Act of 1964, which states in part, "No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Recipients of federal aid have been required to certify compliance with Title VI of the Civil Rights Act of 1964, and the US Department of Transportation must ensure nondiscrimination under Title VI and many other laws, regulations, and policies. Federal transportation authorities and the courts have held that Title VI applies to the transportation planning process and that these groups should both receive the benefits of and not be adversely impacted by regional transportation plans.

To promote environmental justice goals and policies, Metropolitan Planning Organizations need to: (1) enhance their analytical capabilities to ensure that long range transportation plans and the transportation improvement program comply with Title VI; (2) identify residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed; and (3) evaluate and, where necessary, improve their public involvement processes to eliminate participation barriers and engage minority and low-income populations in transportation decision making. These general requirements can be accomplished through the following approach:

- Make better transportation decisions that meet the needs of all people.

- Design transportation facilities that fit more harmoniously into communities.

- Enhance the public involvement process; strengthen community-based partnerships, and provide minority and low-income populations with opportunities to learn about and improve the quality and usefulness of transportation in their lives.

- Improve data collection, monitoring, and analysis tools that assess the needs of and analyze the potential impacts on minority and low-income populations.

- Partner with other public and private programs to leverage transportation agency resources to achieve a common vision for communities.

- Avoid disproportionately high and adverse impacts on minority and low-income populations. To adequately perform the above tasks, the WFRC developed four key steps. This four step process assisted WFRC planners and engineers in determining both 2030 LRP impacts and benefits for the region's target, environmental justice populations. These steps are to:

  (1) Identify and map concentrations of the region's target populations, which are defined as minority (including Hispanic), low-income, disabled, elderly people, and no car households, defined as households without access to a personal vehicle.
  (2) Identify transportation needs of the region's target populations.

(3) Quantitatively assess both impacts and benefits of the 2030 LRP with respect to the region's minority, low-income, disabled, and elderly populations.

(4) Document and evaluate the WFRC's public involvement process.

Regional Target Population Distribution

As part of its efforts to ensure regional environmental justice in the development and implementation of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030, the WFRC identified the distribution of specific, target population groups. Target populations along the Wasatch Front are defined as minority, low-income, disabled, elderly groups, and no car households as defined by the United States Census Bureau.

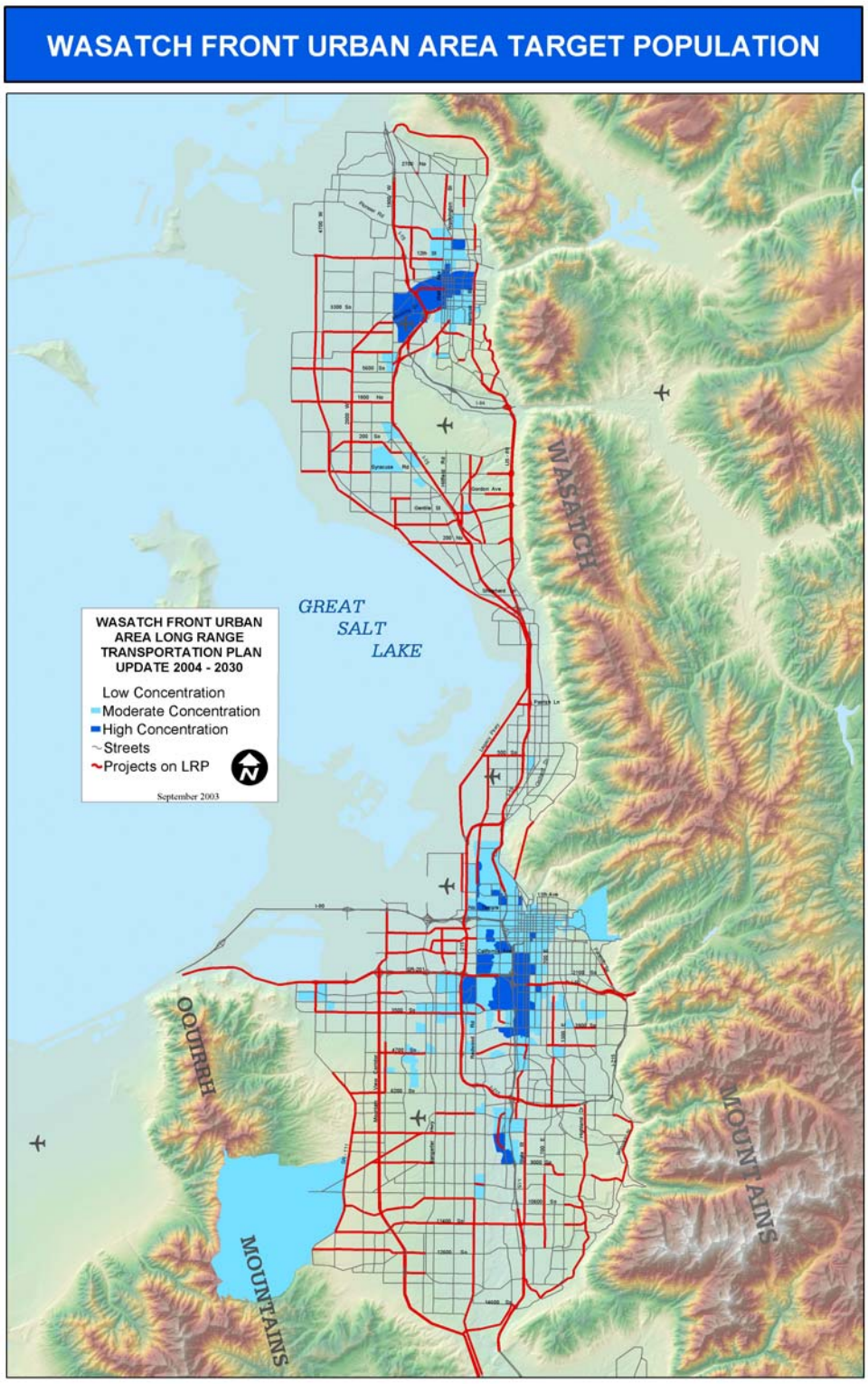
Block Groups were selected as a common geographic area for spatial comparison and mapping of target and non-target populations. Data from the 2000 United State Census was extracted at the BG level and compared with the regional averages. The definitions and regional averages for the data items are shown in Table VII-16. Block Groups with less than the regional average in each category received 0 points. If the Block Group was between 1 and 2 times the regional average, it received 1 point. Block Groups with greater than 2 times the regional average received 2 points. The points were added up from the six categories and disaggregated into three general categories. These are: 0-4 Points, Low Concentration of Target Population; 5-9 Points, Moderate Concentration; and 9-12 Points, Significant Concentration. The distribution of target populations in the Wasatch Front Urban Area is shown in Map VII-7.

Table VII-16

WASATCH FRONT URBAN AREA
TARGET POPULATION AND REGIONAL AVERAGE

Target Population	Definition and Data Source	Regional Average Percentage of Population
Minority	Non-White population, 2000 Census, Table P006	12.4
Low-Income	Persons below the poverty line, 2000 Census, Table P087	7.7
Disabled	Sensory or Physical Disability, 2000 Census, Table P041	15.7
Elderly	Population over 65, 2000 Census, Table P008	8.3
Hispanic	Population of Hispanic Origin, Any race, 2000 Census, Table P007	10.8
No Car Households	Households with no car available, 2000 Census, Table H044	5.9

Map VII-7


WASATCH FRONT URBAN AREA TARGET POPULATION
WASATCH FRONT URBAN AREA LONG RANGE TRANSPORTATION PLAN UPDATE 2004 - 2030
Low Concentration
Moderate Concentration
High Concentration
Streets
Projects on LRP
September 2003
GREAT SALT LAKE
WASATCH MOUNTAINS
OQUIRRH MOUNTAINS

Transportation Needs Of Target Populations

The WFRC conducted a series of outreach meetings with the leadership of local organizations and non-profit groups representing various minority, low-income, disabled, and elderly populations within the Urban Area. The purpose of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 was presented and specific transportation related issues were discussed. A summary of the concerns raised by each group has been provided. A more detailed recapitulation of these meetings can be found in Appendix H.

Multi-Ethnic Development Center

Housing needs to be directly linked to viable public transportation. This is especially true for shift work. Local planning should consider more transit oriented developments. There is a need for better bus connections in the 2030 LRP Update. Administrators see the need for more transit oriented developments, especially those that provide low or moderate priced housing, as a means of addressing their concerns.

Utah Issues

Transportation, or rather the lack of it, is in the top three barriers to work. There is a definite need for better public transportation, which would include Sunday service, more frequent buses and better east/west coverage. More public transit would benefit low income groups who have fewer options than those who can afford cars. Bus service on the west side of Salt Lake County, especially Sunday service, needs to be improved. Fare increases for UTA's Flextrans service are also a concern.

Indian Walk-In Center

Most employment opportunities are in the service industry, but such jobs cause two concerns. The first is that public transportation service is often inadequate for these types of jobs. Second, low paying jobs seldom meet the housing and food needs of these employees, let alone the opportunity to afford a car payment, insurance, maintenance, and gasoline costs. Additionally, even transit fares are too high.

Crossroads Urban Center

Concerns for low income people revolve around three primary issues: adequate food, affordable housing, and the region's public transportation system. There is a definite need to expand transit service, especially during weekends and after hours. Transportation oriented developments would be beneficial, but only if the housing proved to be affordable. Recent increases in TRAX and bus fares have significantly impacted their clients. Bilingual signage and printed materials are also needed, as the Hispanic population is increasing at a high rate.

La Alianza Latina

Local bus service is inadequate, especially when compared to the types of systems that most Latinos are used to enjoying. UTA's service area and frequency is not at all comparable with that found in Central and South America. TRAX is a great advantage but, again, the service is limited. Perhaps the idea of "micro buses" (small buses about the size of a large van) should be explored.

Utah Coalition of La Raza

UTA has changed a number of bus routes that now force people to use TRAX. The light rail transit system was built to serve the needs of commuters and not low income people. Several important bus routes were eliminated. Bus signage and routing information needs improvement. There's a need for

an extension of light rail transit system to the westside of Salt Lake City. If this specialized service is delayed, then additional bus service is need.

NAACP
Public transit continues to be an important means of transportation, especially for low income and minority populations. There are much more developed systems throughout the country, but UTA does a good job for the limited funding it receives. A redistribution of bus routes would help provide better service for the westside. TRAX has also helped provide needed transit service, but the trains should operate on the weekend and after hours.

Utah State Department of Community and Economic Development
Many minorities are transit reliant, but the current level of bus service has proven inadequate. Information is available from UTA, but many people do not know how to access such. Important information needs to be presented in several different languages. Bicycling is becoming increasingly more popular. Bus stop signage and routing information should be improved.

Disabled Rights Action Committee
Americans with Disabilities Act (ADA) improvements are built as part of new construction, but many older facilities, which are not required to retrofit, are not compliant. There is a need for more bus routes for better coverage. Smaller buses for more extended or less frequent routes is the answer. Many bus shelters and stops are not ADA compliant and the light rail access ramps are not protected from the weather. UTA's enforcement of size and weight limits have affected some of their clients.

Utah State Division of Aging Services
Many elderly need "curb to curb" service. UTA's Flextrans helps, but service is limited and the demand is high. There needs to be better public transportation service to local area hospitals, shopping centers, and medical clinics. Many seniors who are still capable of driving are intimidated by the growing congestion and road rage. The Region's elderly population, like much of the nation, will continue to increase over the next several decades.

Summary
Many of the comments received from specialized groups located in the Wasatch Front area focused on the need for greater public transportation service. Reflecting the desire for improved service, the voters in Salt Lake, Davis, and Weber Counties approved an increased in spending on public transportation by passing a referendum that increased local taxes by 1/4 of a cent in November 2000. This money has helped improve overall UTA bus service coverage, service frequency, and hours of operation. Other concerns, such as the growing number of bicycle users, are addressed by policy recommendations found in the 2030 LRP Update. All UTA buses are ADA compliant and equipped to handle persons with disabilities. New bus signs are being installed and routing information is being updated. Increased paratransit operation is also planned, including more on demand and "curb-to-curb" service. Bus shelter improvements, including ADA compliant curbs, are also planned.

The principal concerns provided by the outreach meetings with the leadership of local organizations and potential solutions to those issues are summarized in the following Table VII-17. A response or action needed to properly address each issue or concern is also provided.

Table VII-17

WASATCH FRONT URBAN AREA
TRANSPORTATION NEEDS OF TARGET POPULATIONS

TARGET POPULATION ISSUE OR CONCERN	HOW CONCERNS ARE TO BE ADDRESSED
Inadequate public transportation weekend and evening bus service	UTA, since the recent passage of the 1/4 cent sales tax referendum increasing funding for transit, has developed a comprehensive plan to provide weekend and evening service hours.
Inadequate public transportation service frequency and coverage area	As part of the same comprehensive plan above, UTA is working to provide greater service frequency and eventually better area coverage.
Bus routes changed or eliminated in certain areas	UTA bus routes in specific areas are eliminated or changed because of poor ridership. While UTA understands that changing routes may affect specific individuals, the operation needs to efficiently allocate its limited resources. UTA needs to review its service on a regular basis to ensure that the system effectively serves the public.
Smaller buses are needed for extended or less frequent routes	Smaller buses do not represent a great cost savings to UTA. Buses need to be a certain size to handle peak ridership demand, even if that means the buses look relatively empty during off peak hours. However, UTA is studying the possibility of using smaller buses in demand response operations to more effectively serve targeted areas.
Bus signage can be confusing and needs improvement	UTA has just completed a system-wide sign replacement program. The new signs have route flags that identify the bus routes servicing that location. This improvement will lessen sign confusion.
Affordability of non-public transportation alternatives is a problem	The high cost of buying, licensing, operating, and maintaining a private automobile is beyond the ability of the 2030 LRP to resolve. Viable public transportation systems are part of the solution to this economic issue.
TRAX was built for commuter use and not low income groups	Low-income transit commuters use the TRAX system. The north/ south TRAX line passes through several low-income neighborhoods making this particular transit service a convenience for area residents.
TRAX should be extended to Salt Lake City's low income westside	The 2030 LRP includes TRAX line extensions to the Salt Lake International Airport. This extension will follow North Temple on the westside of Salt Lake City. Other 2030 LRP TRAX extensions will include West Valley City and West Jordan. Additional bus service is planned for the westside of Salt Lake City, along with other targeted areas throughout the Wasatch Front Region.
Transit users should become more politically active and vote	Transit users and supporter of public transportation won a substantial victory in November 2000 with the passage of the 1/4 sale tax referendum. This additional money will be used to increase bus transit and light rail service area coverage and frequency.
Bicycles are becoming increasingly more popular with all groups	The 2030 LRP supports the use of bicycles and promotes alternative modes of transportation. A Bicycle Master Plan is part of the 2030 LRP Update.
Older facilities, especially bus shelters, are not ADA compliant	UTA should continue to upgrade existing facilities to enhance safety, convenience, and functionality for all transit users, including disabled populations.
Growing elderly populations need more specialized services	UTA provides Flextrans and other paratransit service for people who cannot use regular transit service. Flextrans provides curb to curb service, but the demand far exceeds UTA's ability to provide for all needs. UTA provides bus passes to help off-set the cost of transit service for senior citizens. Some elderly may qualify for additional paratransit service. The need to provide such will continue to grow as the regional elderly population follows national demographic trends. UTA has contracted with HandiTrans to provide paratransit service for Weber and Davis Counties.

Impacts Of LRP On Target Populations

Utilizing information provided by travel demand models and geographic information systems, the WFRC performed a comparison of the highway projects recommended by the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 on both target and non-target populations. The first comparison, summarized in Tables VII-18 and VII-19, evaluated the potential impacts of recommended widening, right-of-way acquisition, and new highway construction projects on target populations. In other words, the potential impacts of recommended projects on affected targeted populations throughout the Wasatch Front Urban Area is significantly lower than on non-target groups in both number of project miles and affected population.

Table VII-18

WIDENING OR RIGHT-OF-WAY ACQUISITION
PROJECT IMPACTS ON TARGET POPULATIONS

Target Population Category	Project Miles Impacting Area	Affected Population Within Impacted Area
Low Concentration	533	526,321
Moderate Concentration	54	49,847
Significant Concentration	20	12984

Table VII-19

NEW CONSTRUCTION
PROJECT IMPACTS ON TARGET POPULATIONS

Target Population Category	Project Miles Impacting Area	Affected Population Within Impacted Area
Low Concentration	257	217,876
Moderate Concentration	12	11,177
Significant Concentration	3	2,291

The WFRC identified measures that were used to compare the relative benefits of the 2030 LRP Update with respect to target and non-target populations. One of these comparative measures is the average number of jobs by Traffic Analysis Zone within a specified one way travel time. A reasonable time threshold for automobile travel was set at 20 minutes, which is approximately the regional average commute time. An analysis was performed for the current situation as well as the 2030 projected traffic on the recommended 2030 LRP Update. Table VII-20 shows the average number of jobs within a 20-minute automobile commute for target populations. The relatively high number of jobs within a 20-minute drive for target groups is partially explained by the concentration of the region's target populations in older neighborhoods. These neighborhoods are located near the fringe of the central business districts of Salt Lake and Ogden City, in proximity to a high number of jobs. The majority of the region's non-target populations reside in residential suburbs, the location of which requires a longer commute time to regional employment centers.

Table VII-20

AVERAGE NUMBER OF JOBS WITHIN A 20-MINUTE AUTO COMMUTE

TARGET POPULATION CATEGORY	BASE YEAR	2030 LRP
Low Concentration	114,702	165,602
Moderate Concentration	169,968	213,454
Significant Concentration	261,174	335,400

Although this trend is beginning to reverse itself, with an increase in downtown populations, and a greater ethnic diversity in suburban neighborhoods, the economic differences of specific regional population groups persist. However, the results of the analysis performed on the average number of jobs within 20-minute drive revealed that target populations groups will continue to have significantly lower drive time to a greater number of jobs than non-target populations. Target populations were at least as well served by existing and planned 2030 LRP highway facility improvements as other segments of the population. The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 benefits both target and non-target populations.

In addition to the average number of jobs within a 20-minute auto and 40-minute transit commute, a third measure to compare benefits of the 2030 LRP Update to target and non-target populations is the percent of congested vehicle miles of travel (VMT) in the PM peak period. Congested vehicle miles of travel is defined as more than 80 seconds of delay per mile and has been calculated by comparing congested speed with uncongested speed. Therefore, the delay considered is that over the amount already occurring when traffic is light. As seen in Table VII-21, the percent of congested VMT in areas with greater than average target populations is generally about the same or more than in areas with less than average target populations.

Table VII-21

2030 VMT TRAVELED THROUGH TARGET POPULATIONS TAZ'S

Target Population Category	Total VMT Within Area	VMT of links with >80 sec. Delay/Mile	Percent of VMT with > 80 sec. Delay/Mile
Low Concentration	11,756,991	501,000	4.26%
Moderate Concentration	2,651,798	141,392	5.33%
Significant Concentration	1,180,043	80,125	6.79%

As with the analysis performed for automobile commuters, the WFRC identified a measure to compare the relative impacts of the 2030 LRP on public transportation users. For transit commuters, a 40 minute one way commute time was selected based on the reasonable assumption that persons with multiple transportation options would not utilize public transportation if travel time exceeded twice that of driving.

The analysis performed indicated that the average number of jobs within a 40-minute transit commute continues to increase between 2001 and that projected for 2030. This increase can be partially explained as the result of implementing new transit options, expanded area coverage, an increase in the regional employment totals, and increased transit service frequency. By 2030, the average number of jobs within a 40-minute transit commute doubles for target populations and triples for non-target populations. Target populations were at least as well served by existing and planned 2030 LRP Update transit facility improvements as other segments of the population. Table VII-22 shows the average number of jobs within a 40-minute transit commute for target populations.

Table VII-22

AVERAGE NUMBER OF JOBS WITHIN A 40-MINUTE TRANSIT COMMUTE

TARGET POPULATION CATEGORY	BASE YEAR	2030 LRP
Low Concentration	9,414	28,553
Moderate Concentration	32,590	62,478
Significant Concentration	53,345	121,139

Benefits Of LRP For Target Populations

The highway and transit facility improvements found in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 will provide more efficient access to the region's commercial, industrial, and government employment centers. Better highway and transit access to regional jobs increases employment opportunities for target populations. Improved access to employment locations benefits those persons who are able to afford automobiles and those individuals that rely on public transportation. Utah Transit Authority's bus routing and service frequency, especially after hours and weekend operation, will take advantage of 2030 LRP highway facility improvements planned for the region's street network. The average number of jobs within a 20-minute commute is a means of assessing the effectiveness of the current highway transportation system and that envisioned in the 2030 LRP Update.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 provides a number of transit related benefits which will directly benefit target populations. The 2030 LRP Update recommends continued growth in UTA bus, vanpools, and Flextrans and other paratransit service, funded in part by the November 2000 tax referendum. By 2030, this increase in UTA bus service will equal approximately 100 percent of the 1997 bus system. Additional transit improvements include the development and implementation of two high frequency urban bus service grids. The first grid would be located in a zone generally inclusive of the area inside the I-215 belt loop, West Valley City, and the area east of I-15 between 7800 South and I-215. The second high frequency bus system, located in Weber County, would include Ogden City south of 17th Street and east of Wall Avenue. This general area would also include portions of South Ogden City near the campus of Weber State University.

Bus rapid transit and high frequency bus corridors are planned for the region's most heavily used arterial streets and collector roads, which include 3500 South, 4500 South, 1300 East, Highland Drive, North

Temple, Foothill Drive, 24th Street, Harrison Blvd, and Washington Blvd. Additional light rail transit corridors are recommended including connections to the Sugarhouse Business District, South Jordan's Daybreak planned development, West Valley City's Intermodal Center, the Salt International Airport, and Draper City. Regional commuter rail service between Ogden City and Utah County is also part of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

The Utah Transit Authority has upgraded their bus fleet and transit stops to meet ADA requirements. All buses are equipped with wheelchair lift ramps and secured tie-down positions for disabled patrons. Approved ADA curb cuts, better asphalt maintenance, improved site drainage at bus stops and shelters, and increased time for pedestrians to cross streets will benefit both disabled and elderly populations.

AIR QUALITY CONFORMITY

Various portions of the Wasatch Front Urbanized Area have been designated at one time or another as non-attainment of the National Ambient Air Quality Standards (NAAQS) by the Environmental Protection Agency for certain types of air borne pollutants. Exhaust emissions from automobiles, trucks, and buses contribute to three of these pollutants: carbon monoxide (CO), ozone (O3), and particulate matter (PM10). The impact of the 2030 Long Transportation Plan on emissions of each of these mobile source related pollutants was evaluated as part of the air quality conformity analysis required for approval of the Plan by FHWA and FTA. The WFRC report titled "Air Quality Memorandum Number 18" contains the conformity analysis for the 2030 LRP Update and a more complete discussion of the air quality impacts of the plan.

The emissions impact of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 on each of the mobile source related pollutants was examined and evaluated. The WFRC determined that the 2030 LRP Update is consistent with and conforms to state air quality plans. In fact, projected 2030 vehicle emissions of carbon monoxide (CO), nitrogen oxides (NOx), and volatile organic compounds (VOC) will be substantially lower than what they are today even with the anticipated increase in traffic over the next 30 years. These reductions will occur primarily because of policies and issues which are external to the 2030 LRP, such as the vehicle emission testing programs and federal motor vehicle emission standards. Fugitive dust emissions or road dust, a component of PM10, are projected to increase as vehicles miles traveled increases. The overall impact to PM10 emissions is minimal as the secondary component of PM10, NOx emissions, will be substantially reduced in the future.

Carbon monoxide - Because carbon monoxide emissions have localized impacts, there may be some increase in carbon monoxide at specific intersections as a result of increased traffic. More detailed study to model local "hot spot" concentrations of carbon monoxide at major intersections (i.e. signals operating at level of service "D" or worse) may be necessary as part of an environmental analysis of individual projects. Specific corridors where hot spots analysis may be of particular concern would include any intersection or proposed intersection where the total four-way volume is projected to exceed 50,000 vehicles per day.

Ozone - Beginning in 2003 EPA began designating ozone non-attainment areas based on the new 8-hour standard for ozone. Based on ozone monitoring data for the last three years, the Wasatch Front area is in compliance with the new ozone standard.

PM2.5 - Beginning in 2002 EPA began designating PM2.5 non-attainment areas based on the new standard for fine particulate matter (PM2.5). Based on monitoring data for the last three years, the Wasatch Front area is in compliance with the new PM2.5 standard. PM2.5 is a finer component of PM10 and is believed to originate largely from secondary sources such as NOx emissions. As NOx emissions from automobiles continues to go down in the future, it is anticipated that PM2.5 levels will continue to decrease.

Conformity

The conformity analysis for each non-attainment or maintenance area within the Wasatch Front Region is illustrated in the figures that follow, with a brief discussion of each area of air quality concern.

Salt Lake City and Ogden City Carbon Monoxide - Figures VII-2 and VII-3 compare the projected trend of total CO emissions, based on the Mobile5b model, in Salt Lake City with the budget defined in the State Implementation Plan. Salt Lake City and Ogden City CO emissions are projected to be well below the health based limits defined by the state, and even lower than today's CO emissions despite an increase in traffic over the next 30 years.

Figure VII-2

SALT LAKE CITY CARBON MONOXIDE (CO)

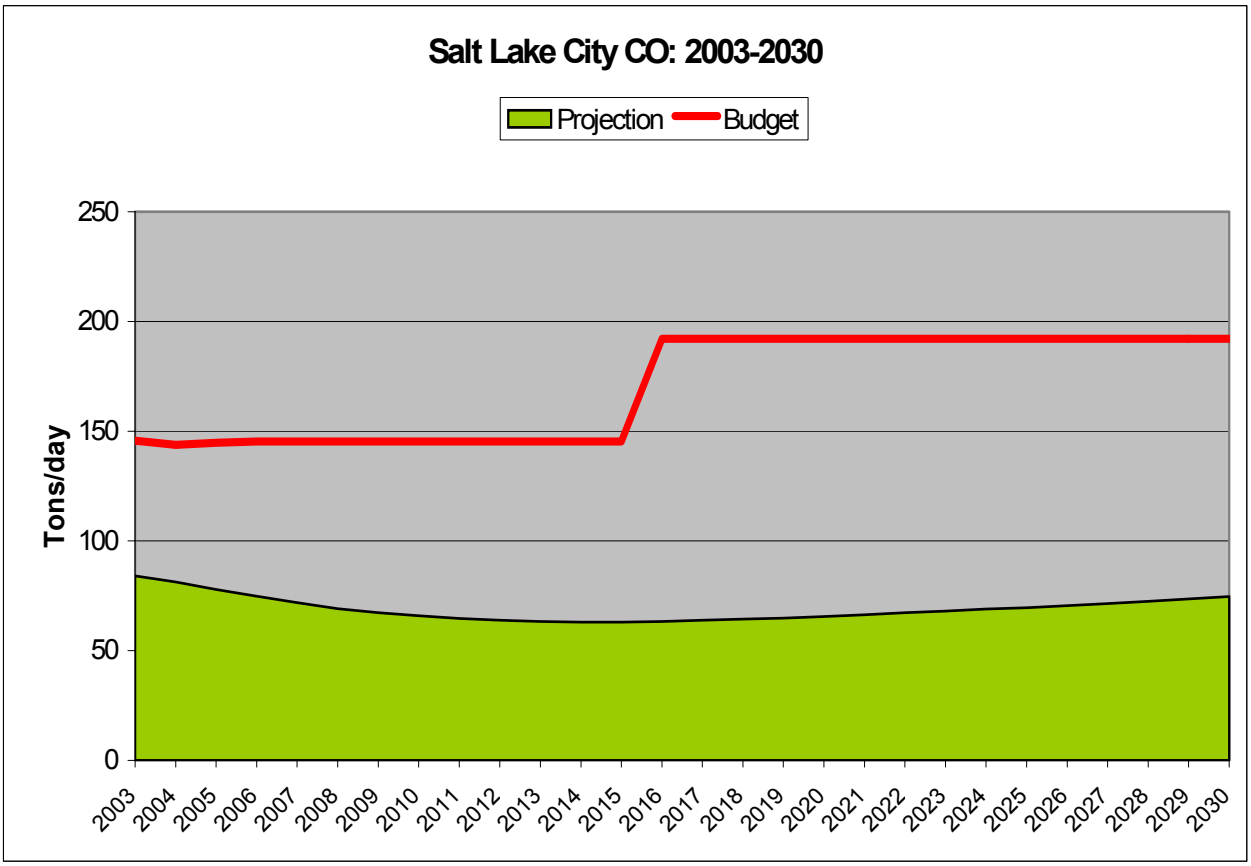
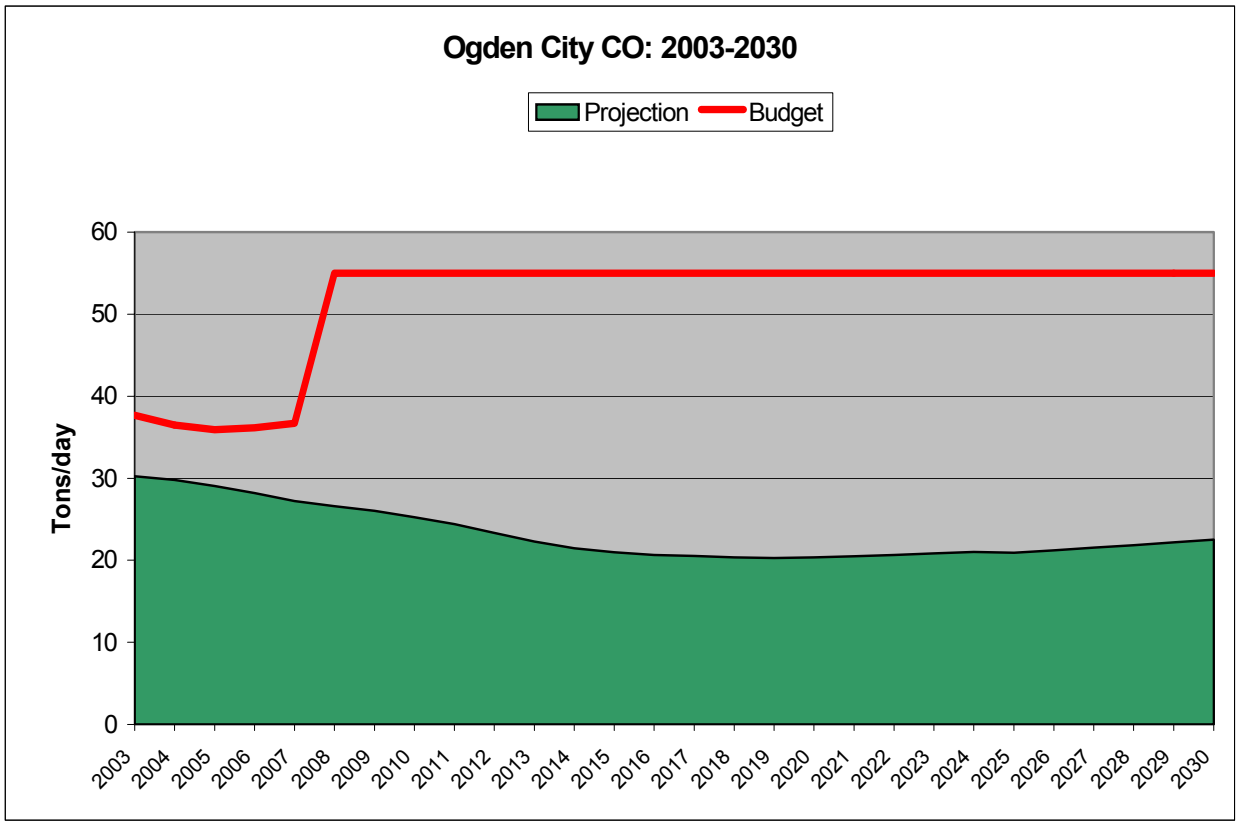


Figure VII-3

OGDEN CITY CARBON MONOXIDE (CO)



Salt Lake County Particulate Matter - Figures VII-4 and VII-5 display primary and secondary components of PM10 emissions in Salt Lake County. Primary emissions of PM10 consists mostly of fugitive road dust along with minor amounts of tailpipe soot, and particles from brake wear and tire wear. Secondary emissions of PM10 shown below are NOx emissions that can lead to the formation of nitrate particles.

As seen in the graphs, emissions of road dust increase linearly with increasing VMT but do not exceed the SIP budget for mobile sources or primary sources of PM10. NOx emissions will generally decrease to about the year 2020 and then they begin a gradual increase due to increased VMT. NOx emissions remain below the budget established in the SIP for mobile sources, and 2030 emissions of NOx from automobiles is projected to be lower than current emission levels.

The conformity analysis for the Ogden City PM10 non-attainment area reveals a similar situation for primary and secondary PM10 emissions from automobiles.

Figure VII-4
SALT LAKE COUNTY PARTICULATE MATTER (PM10) - Dust

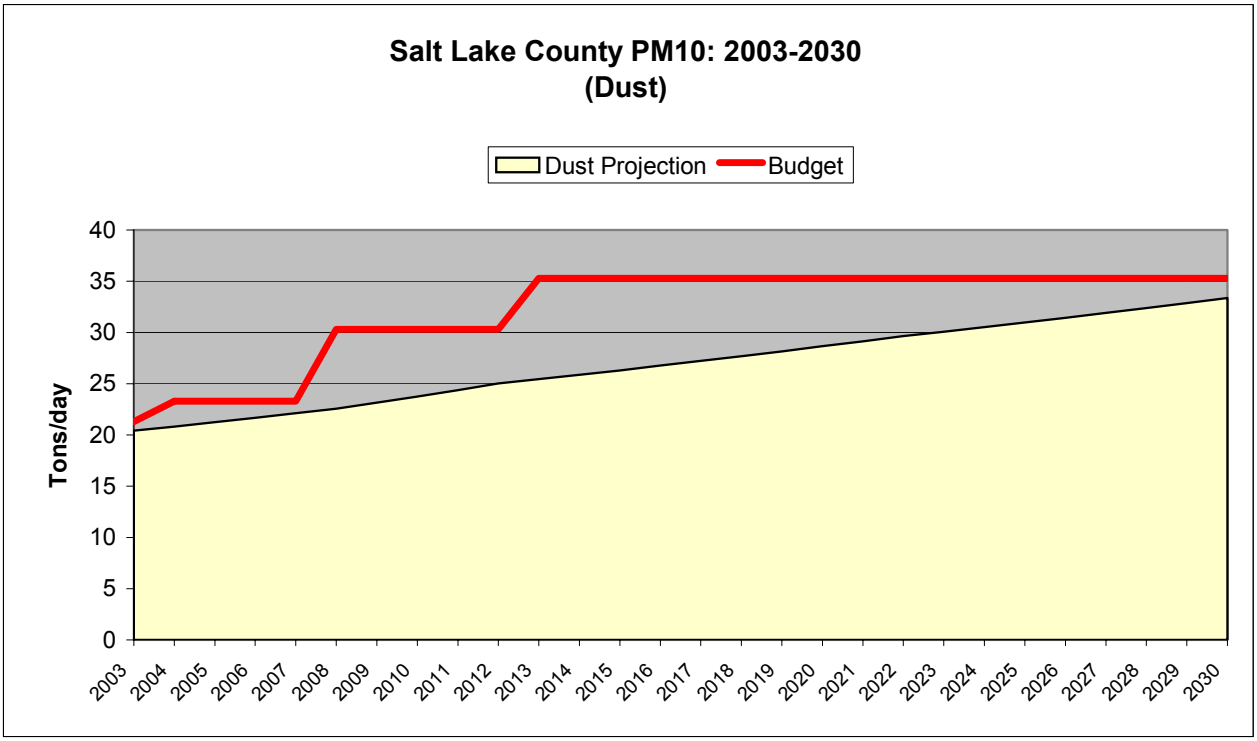
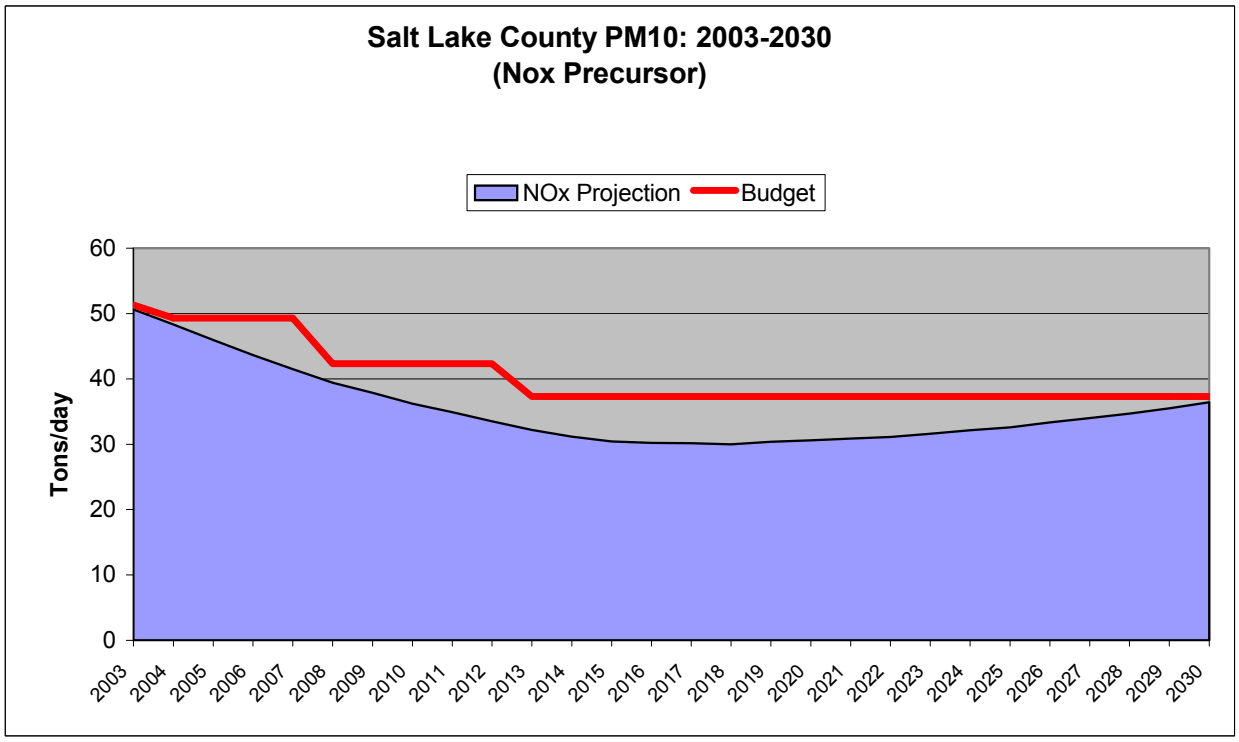


Figure VII-5
SALT LAKE COUNTY PARTICULATE MATTER (PM10) - Nox Precursor



Salt Lake and Davis County Ozone - Figures VII-6 and VII-7 below display the trends of summer ozone precursor emissions, NOx and VOC, in the Salt Lake County and Davis County area. Building the 2030 LRP Update will not produce NOx or VOC emissions in excess of established health related limits. In fact, NOx and VOC emissions are projected to decrease within the time frame of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

Figure VII-6

SALT LAKE AND DAVIS COUNTY OZONE - Nox Precursor

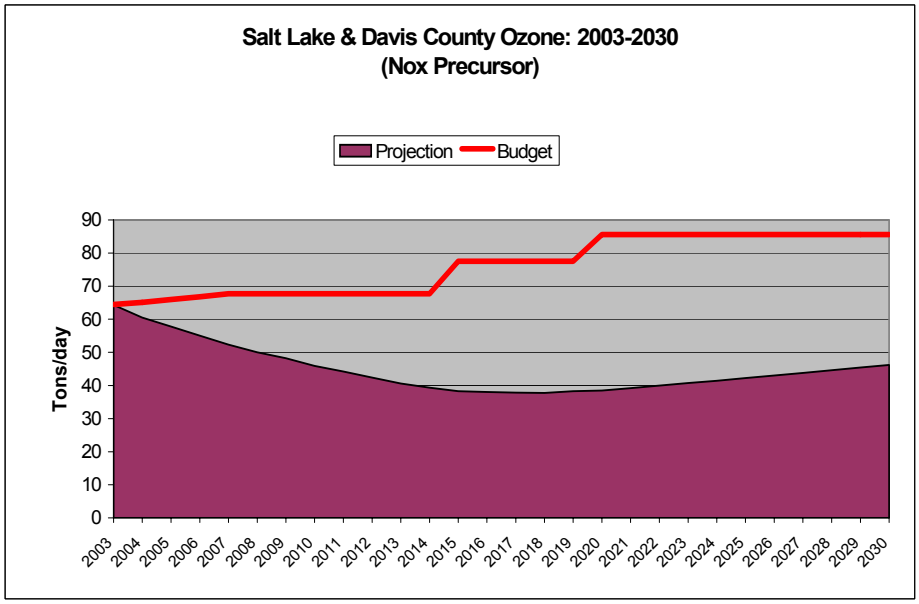
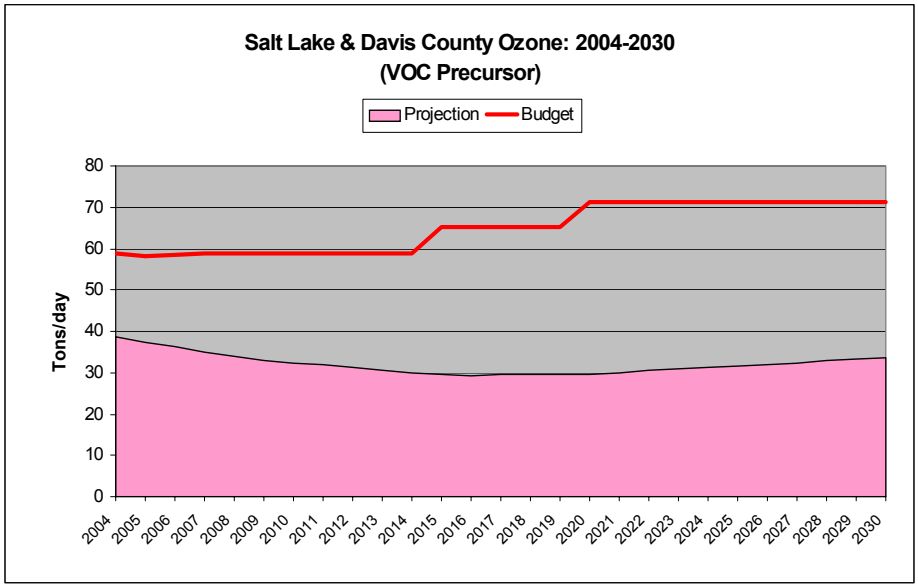


Figure VII-7

SALT LAKE AND DAVIS COUNTY OZONE - VOC Precursor



NEPA AND THE 2030 LRP UPDATE

The National Environmental Policy Act (NEPA) requires all transportation projects that receive federal funding to comply with the requirements of the NEPA. The 2030 LRP Update has made an effort to evaluate the projects of the plan according to many of these environmental requirements. However, as the projects in the 2030 LRP Update have not reached the project development phase, less detailed environmental information is available for these projects, and, therefore, a more general evaluation is conducted for the projects in the 2030 LRP Update.

The environmental categories by which the projects in the Plan were evaluated and that are a part of NEPA, include: social impacts (land use; relocations, neighborhood disruptions and school safety); cultural resources; environmental justice; transportation economic impacts; environmental impacts (air quality, noise, water quality, wetlands, farmland, sensitive species, waterbody/floodplain modification impacts, and hazardous waste).

Based on recommendations from the Wasatch Front Regional Council's Regional Growth Committee, and recent developments with regard to transportation planning in state Departments of Transportation, Federal Highway Administration, and Federal Transit Administration, there may be a need to re-evaluate the present transportation planning process/methodology, and make some changes in the planning process that would be reflected in the region's future long range transportation plans.

On a national scale, several state DOTs, and U.S. DOT (Federal Highway Administration and Federal Transit Administration) have recognized the need to make some fundamental changes to the transportation planning and project development processes to make them more efficient and sensitive to the needs of the physical and cultural environments. Some of the specific movements include: environmental streamlining; integrating the NEPA into the transportation planning process; and making stronger linkages between transportation and land use planning. Over the next three years, the Wasatch Front Regional Council will be making an effort to incorporate many of the above ideas into the region's transportation planning process.

REGIONAL GROWTH PRINCIPLES

Another recommendation of the Regional Growth Committee was to develop some regional growth principles and strategies as a part of the 2030 LRP Update. This would include researching the work that has been done in this area by Envision Utah, the Quality Growth Commission, local governments, and other organizations, evaluating them as to their value and applicability, and adopting principles and strategies that could be used to guide future regional growth and transportation improvements. This work is planned to be accomplished over the next two or three years and would be reflected in the region's future long range transportation plans.

TEA-21 PLANNING FACTORS

The Transportation Equity Act for the 21st Century requires regional and metropolitan planning organizations to assure that the transportation planning process provides for the consideration of projects and strategies in accordance with the seven general goals. These goals are designed to assist planners

in developing comprehensive solutions to area transportation needs. The TEA-21 planning factors for improving transportation system management, operation, efficiency and safety are consistent with the goals and objectives of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The following lists the seven TEA-21 planning factors and describes how the 2030 LRP Update has considered each requirement.

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.

The 2030 LRP Update provides a network of improved transportation facilities, both highway and transit, which are essential to the economic vitality of the region. The 2030 LRP Update calls for the modernization of a critical portion of the local interstate freeway system, an improved regional highway network, bus rapid transit, enhanced bus service, the extension of the light rail system, regional commuter rail, bus service, and increased attention to intermodal center locations and development. The facilities improvements recommended by the 2030 LRP Update will provide increased accessibility to regional employment for individuals who rely on private automobiles and for persons using public transportation. Improved local and regional accessibility and connection to large employment centers, business districts, commercial developments, industrial parks, educational institutions, shopping malls, neighborhoods, and area airports will promote the Wasatch Front Region's competitiveness, productivity, and efficiency in the 21st Century.

2. Increase the safety and security of the transportation system for motorized and nonmotorized users.

The highway and transit facilities of the 2030 LRP Update will increase safety and security of motorized and nonmotorized users through the Plan's recommended new construction and improvement projects. While safety related improvements, because of their relatively small scale, are not specifically listed or mapped, safety issues will be given due consideration through the Wasatch Front Regional Council's Transportation Improvement Plan project selection criteria. Controlling facility access, expanding freeway capacity, and putting travel on streets that are designed to adequately handle the demand improve overall network safety. Planned highway improvements, widening projects, and facility access control through congestion management systems all combine to enhance travel safety. The 2030 LRP Update includes a Regional Bicycle Facilities Plan and pedestrian program policies for urban design, site planning, subdivision design and land use, which can serve as guidelines for local governmental implementation and regulation. One of the goals of the Bicycle Facilities Plan is to identify improvements to enhance the safety of bicycle travel. The policies for pedestrian facilities will also help promote safety. Security is an important consideration in designing and operating rail and bus services in the region. The Utah Transit Authority employs security patrolmen to ensure the personal safety of its system patrons, and the park-and-ride lots are well lit and frequently patrolled. Finally, telephones are provided in the event of an emergency.

3. Increase the accessibility and mobility options available to people and for freight.

One of the goals of the 2030 LRP Update is to "Increase transportation mobility and accessibility for both persons and freight, thus promoting economic vitality in the region." Both roadway and transit

improvements are recommended by the 2030 LRP Update to help reduce area congestion and enhance accessibility. Increased mobility is provided by a variety of travel options including new or widened highways and primary arterial streets, light rail transit, bus rapid transit, enhanced bus service, new regional commuter rail transit service, bus transit hubs, planned intermodal centers, and additional transit amenities, such as park-and-ride lots. The 2030 LRP Update anticipates a doubling of the number of miles of bus service, including expansion of weekend and night routes and additional paratransit service to major travel demand generators. Freight movement, both interstate and intrastate, will benefit from the reconstruction and modernization of the local freeway system, improvements to the regional highway network and other access enhancements. The region's highway system will continue to provide good access to air cargo facilities. Also, as part of UTA's recommended regional commuter rail project , a consolidated intermodal freight transfer center for the Union Pacific Railroad will be developed in Salt Lake City. This new hub will improve the movement of rail freight traffic.

4. Protect and enhance the environment, promote energy conservation and improve quality of life.

Concern for the environment of the Wasatch Front Urban Area is an integral part of the regional transportation planning process. Recommended facilities are considered with respect to environment impacts at the system level using maps identifying environmental considerations at the regional scale. As facilities are brought forward in the planning, development, design, and construction process, appropriate environmental reviews are conducted by qualified individuals. By attempting to minimize travel delay, energy conservation is promoted through congestion management strategies, improved system capacity, and the development of transit alternatives. The 2030 LRP Update provides a number of recommendations for improved regional transit, including an increased emphasis on promoting UTA's Rideshare program. These efforts combine to enhance mobility and accessibility to home and work, while minimizing impacts on the natural environment, thus improving the overall quality of life for those residing throughout the region.

5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

The 2030 LRP Update calls for the development of intermodal centers and park-and-ride lots at optimum locations to improve connectivity of the regional transportation system. The 2030 LRP Update also promotes shared opportunities for multimodal transportation development including light rail transit, commuter rail, augmented bus service and bicycle pathways. Identified park-and-ride lots are located relative to automobile, pedestrian and bicycle connections for access to bus service and carpools. Feeder bus service to the light rail system is provided by the 2030 LRP Update, along with transit hubs for transfers between different travel modes. Transit to transit connections are possible, as well as transit to aviation connections. Access to airport cargo facilities, railroad freight service, Amtrak passenger rail service and intrastate/interstate bus lines (i.e. Greyhound) is provided by planned intermodal facilities. One of the 2030 LRP Update's goals is to "Provide an equitable distribution of transportation modes, facilities and benefits to permit all geographic, economic and social groups to effectively participate in essential urban activities."

6. Promote efficient system management and operations.

The Wasatch Front Regional Council has both a congestion management system and pavement management system and promotes transportation demand management and transportation system management strategies developed to promote efficient system management and operations. These strategies rely on specific recommendations to be implemented as existing highway facilities are improved or new facilities constructed. Each capacity widening project recommended by the 2030 LRP Update is accompanied by a list of specific means to improve system efficiency. These lists include such advanced traffic management system strategies as access management plans, fiber optic cables for the implementation of the region's intelligent transportation system, message signs, cameras and travel demand concepts designed to promote the efficient use and management of the existing and proposed transportation network. The WFRC, in cooperation with UDOT, UTA, and local communities, has prepared an ITS Architecture Plan to guide the implementation of intelligent transportation system projects for both highway and transit.

7. Emphasize the preservation of the existing transportation system.

The financial analysis section of the 2030 LRP Update assures that adequate funding for maintenance, operation, and preservation of highway and transit facilities is provided. The 2030 LRP Update assumes adequate funding to preserve existing streets and highways. This is a priority of both UDOT and local communities. A pavement management program is currently under development. This program, combined with proper access management, incident management, and the updating of signal timing will help preserve the existing transportation system. The 2030 LRP Update also recommends the upgrading of transit facilities and the replacement of all vehicles on a regular schedule. The transit portion of the 2030 LRP Update assumes replacement of buses every 12 years and recommends additional maintenance facilities. Over the years, UTA has maintained a solid record in maintaining its facilities and this record is expected to continue in the future.

VIII. FINANCIAL PLAN

The Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) require that a financial plan be part of the overall transportation plan for a region. The purpose of this requirement is to ensure that the recommended improvements included in the plan can be implemented and that the air quality benefits assumed for the implementation of the plan are realistic. These realistic estimates of emissions reductions are needed for the air quality conformity analysis required by ISTEA and the Clean Air Act Amendments of 1991.

Potential revenue sources are summarized and estimates of future revenues from these sources are made for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The costs to meet the projected needs of the Transportation Plan for the Urbanized Area through the year 2030 are estimated. These costs include those required to meet the needs identified in the 2030 LRP Update as well as the costs required for general administration and the operation and maintenance of the existing transportation system. This chapter summarizes the Financial Plan of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The Financial Plan, Technical Report 44, contains detailed information on the revenue and cost assumptions and projections used to determine the resources available to implement the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

PROJECTED REVENUES

The Wasatch Front Regional Council, in cooperation with the Utah Department of Transportation (UDOT) and the Utah Transit Authority (UTA), developed estimates of available revenues based on projected sources that will be available for transportation improvements through the year 2030. Included in these revenue estimates are federal, state and local sources for highway and transit improvements. Assumptions were made concerning revenue growth and new or increased sources of funds. The projections and assumptions used are discussed in the balance of this section. A more detailed description of potential federal, state, and local revenue sources for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 has been provided in Appendix I.

HIGHWAY REVENUE SOURCES

Federal, state, and local government revenues will be available for the recommended highway improvements found in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. These revenues were estimated for the years 2004 through 2030. Separate efforts were made to estimate funds that will be available to the Utah Department of Transportation and funds that will be available for local jurisdictions.

Revenue sources for UDOT include federal funds, state funds, and the Centennial Highway Funds. TEA-21 increased federal highway funding in Utah by approximately 50 percent. After 2003, federal funds are assumed to grow by two percent a year. State gasoline tax revenues were assumed to increase at a three percent rate per year. In addition, a five cent per gallon increase in the gas tax was assumed every six years beginning in 2006. State general funds will also contribute to highway improvements.

The four main sources of revenue available for regional and local transportation projects are: (1) federal funds for the Salt Lake and Ogden/Layton Surface Transportation Programs (STP) and the Congestion Mitigation / Air Quality Programs (CM AQ); (2) Class B and C Funds from state highway user revenues for counties and cities; (3) Salt Lake County's 1/4 of 1/4 cent sales tax; and (4) local general funds. Local funding, such as Class B and C funds, local general funds, and innovative funding sources, were also projected to grow at three percent per year.

Statewide Highway Revenues

Working with the WFRC, the UDOT Planning Division developed estimates of the projected revenues that will be available to UDOT through the year 2030. These revenues come from federal revenue, state revenue, the Centennial Highway Fund, as discussed below. Details of these projections are included in the Financial Plan for the 2030 Long Range Transportation Plan Update.

Federal Revenue: ISTEA established several spending programs for federal funds for highway improvements, which are administered by UDOT and the State Transportation Commission. TEA-21 continued these programs with higher funding levels. These programs include Interstate Maintenance, National Highway System, Any Area Surface Transportation Program, STP Safety and Enhancement Programs, and Bridge Replacement Programs. TEA-21 authorized amounts were assumed to be available for these programs through 2003. A modest growth of two percent per year for each program was then assumed for the period between 2004 and 2030.

State Funds: State of Utah revenues for transportation are primarily generated through highway user fees. These include a 1/16 cent sales tax, motor fuel and special fuel taxes, vehicle control fees, motor vehicle registration, proportional registration, temporary permits, special transportation permits, highway use tax, and safety inspections and miscellaneous fees. In addition, the State Legislature has programmed state general funds to support UDOT projects. UDOT used historical growth rates for each of these sources to project future revenues. Overall, motor fuel consumption grew at a rate of about 3.0 percent per year. Other revenue sources have grown at rates of three to six percent.

State revenue projections also assume future increases in the state gas tax. The state gas tax has increased from seven cents per gallon to twenty-four and a half cents per gallon over the last twenty years. The latest increase was a five cents per gallon increase approved in 1997. This trend would indicate that it is reasonable to expect that the state gasoline tax will be raised by five cents per gallon every six years or so. The Long Range Plan Update assumes the gas tax will be raised in the year 2006, and thereafter in 2012, 2018, 2024, and 2030. This will result in a total tax increase of $0.25 per gallon by 2030.

In establishing a Centennial Highway Fund (CHF) in 1996, the Legislature greatly increased the amount of state general fund revenue going to UDOT. The CHF program initially assumed general fund revenues up to $145,000,000 per year. The Legislature has recently reduced this level to approximately $60,000,000 per year due to budget constraints. The 2030 LRP Update assumes approximately $60,000,000 per year through 2007, but expects that the economy and budget situation will improve to allow the Legislature to provide $100,000,000 per year afterwards.

Finally, UDOT will receive a 1/4 of the 1/4 cent transit sales tax in Salt Lake County, which was

approved in November of 2000. The 1/16th of a cent sales tax was designated for state highway projects in Salt Lake County. WFRC is estimating that this sales tax will generate approximately $752,000,000 through the year 2030. Table VIII-1 summarizes the amount of statewide highway revenue projected through the year 2030.

Transfers Appropriated to Other State Agencies : Not all of the highway user revenues are available to UDOT. In the past, approximately 8 percent of these funds have been diverted to other agencies, such as Highway Patrol, Driver's License Division, and the Utah State Tax Commission. Of the remaining amount, 25 percent is transferred to cities and counties through Class B and C funds. UDOT estimated that future amount of diversions to other agencies. The total amount of transfers and diversions from 2004 through 2030 is approximately $7,438,000,000.

Local Revenues

There are three main sources of local revenues for transportation projects: (1) federal funds from the Salt Lake and Ogden/Layton Surface Transportation Program and the Congestion Mitigation/Air Quality Program; (2) Class B and C Funds from state highway user revenues for Counties and Cities; and (3) local general funds. In addition, other innovative sources will need to be used in the future to help finance specific highway improvements recommended in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The following section describes the various funds that are available to local cities and counties within the Wasatch Front Region.

Federal Funds: ISTEA established several spending programs for federal funds for highway improvements in urban areas, which the Wasatch Front Regional Council administers. TEA-21 continued these programs with higher funding levels. These programs are the Salt Lake and Ogden/Layton Surface Transportation Program and Congestion Mitigation/Air Quality Programs. For projecting future revenues, TEA-21 authorized amounts were assumed to be available for these programs through 2003. As with the other federal program revenues, a modest growth of two percent per year for each program was then assumed for the period between 2004 and 2030. These funds can be used for projects on the state highway system, as well as on local streets.

Class B and C Funds: The Class B and C roadway funds are allocated from the highway user fees revenues on a ratio of population and road miles for counties and cities in the state. Based on the current allocation formula, the Wasatch Front Urban Area currently receives approximately 41 percent of the Class B and C funds. Although the allocation formula will change in the future, the current percentage was maintained for the projection of future funding for this category.

General Funds: Cities and counties along the Wasatch Front program a significant amount of local general funds for highway maintenance and improvement. Current and past general fund spending on highways by counties and cities was examined to project future revenues. Based on the information provided in a survey of Wasatch Front communities, local governments are projected to spend about $85,000,000 on highway maintenance and improvements in 2004. These local expenditures are projected to grow by three percent a year through 2030.

Innovative Sources: Local governments will need to consider several innovative highway funding programs in the future. Many already levy transportation impact fees on new developments. In addition,

developers are a source for funding for major projects which benefit their development. These and other innovative sources will provide funding over the next 27-years for local highway projects. A total of approximately $253,000,000 is assumed. Table VIII-2 summarizes the amount of regional and local highway revenue projected through the year 2030.

Table VIII-1

SUMMARY OF PROJECTED
STATEWIDE HIGHWAY REVENUE
2004 – 2030

SOURCE	AMOUNT
Projected Statewide Revenue	
Federal Revenue	
Highway Trust Funds	$5,457,000,000
State Revenue	
Highway User Funds (less diversions)	$23,590,000,000
Centennial Fund – Bonds & Other Revenue	$1,864,000,000
Transfers Appropriated to Other State Agencies	($7,434,000,000)
Total Statewide Revenue Available	**$23,477,000,000**

Table VIII-2

SUMMARY OF PROJECTED
REGIONAL AND LOCAL HIGHWAY REVENUE
2004 – 2030

SOURCE	AMOUNT
Projected Regional Revenue	
Surface Transportation Program	$391,000,000
Congestion Mitigation / Air Quality	$123,000,000
Salt Lake County 1/16 percent sales tax	$752,000,000
Total WFRC Programmed Revenue	**$1,266,000,000**
Projected Local Highway Revenue	
Class B and C Program Funds	$2,633,000,000
Local General Funds	$3,451,000,000
Innovative Funding Sources	$253,000,000
Total Local Highway Revenue	**$6,337,000,000**

TRANSIT REVENUE SOURCES

Revenues for transit service and improvements are available from several sources including federal funds, a local sales tax, fares, and others. Federal funds for transit capital and planning assistance are made available through the Federal Transit Administration. These funding programs are financed through the federal gasoline tax as well as from general fund monies. The Utah Transit Authority is the primary recipient of these funds which are used to make system improvements, introduce new transit technology, increase service, and purchase new equipment.

Revenues for transit improvements were projected assuming an increase in local support to a one percent transit sales tax in Weber and Davis Counties and 15/16 percent in Salt Lake County beginning in 2007. In addition, federal formula grant funds available for transit were assumed to grow by three percent a year for operating costs. Also, it was assumed that federal discretionary funding for transit improvements, such as bus/bus facilities, fixed guideway and rail modernization, would be available at 54.6 million dollars in 2004 and would grow by about 3.0 percent per year to keep up with the inflation rate for capital costs. This is the equivalent of 52 percent of total major investment costs and 39 percent of all capital costs. Finally, fare revenue was projected to cover 20 percent of bus operating costs, just under five percent of its paratransit operating costs, and 40 percent of the north/south light-rail and regional commuter rail operating costs and 30 percent of Enhanced Bus, Bus Rapid Transit, and other light-rail operating costs.

Federal Transit Funds

Federal funds for transit capital and planning assistance are made available through the Federal Transit Administration. These funding programs are financed through the federal gasoline tax currently going to the Mass Transit Account of the Highway Trust Fund as well as from general fund reserves. These are discussed below.

Section 5307 Formula Grants: This program provides a block grant to local transit agencies for capital improvements. These funds can also be used to support preventive maintenance and planning activities. Funding is distributed annually to the Wasatch Front Urban Area by a formula based on population, population density, and transit revenue miles of service. Fiscal Year 2003 Section 5307 grants were $22 million for the Salt Lake and the Ogden/Layton Urbanized Areas. The WFRC assumed that this annual amount would grow by 4.2 percent each year in order to keep up with the inflation of capital costs. A total of $1,109,000,000 is projected to be available for Section 5307 between 2004 and 2030 for the Wasatch Front Urban Area.

Section 5309 Discretionary Bus/Bus Facilities Grants: This program provides discretionary funding for capital improvement projects such as the purchase of buses, the construction of park-and-ride lots, or the construction of operating and maintenance facilities. These funds are allocated by FTA throughout the country on the basis of need. The federal share of these projects is up to 80 percent but actual share typically is much lower. Because of their discretionary nature, Section 5309 funding for area transit projects varies from year to year. For this 2030 Long Range Transportation Plan Update analysis, the WFRC assumed that UTA would receive a little more than the amount they received in 2003 (3.9 million), with a 3.0 percent annual increase to adjust for inflation. The projected total for this discretionary grant category is $165,500,000 for the next 27 years which is the equivalent of 11percent of the region's total non-rail, non-Bus Rapid Transit, or Enhanced Bus capital costs.

Section 5309 New Starts Grants: FTA also has a separate Section 5309 Program for new projects over 50 million dollars. The federal share for these projects generally range from 50 to 80 percent. The WFRC assumed that UTA would receive a revenue stream of $50.5 million per year. Over the life of the Long Range Plan Update this federal income would amount to about 46 percent of the total capital costs of Commuter Rail, light rail, and bus rapid transit. A total of $2,243,000,000 is projected for this grant program.

Other Federal Grants: FTA also has a separate Section 5309 Program for rail modernization which each rail project becomes eligible for after seven years in service. A total of $50,500,000 was assumed for this program. Additionally, federal grants for Congestion Management/Air Quality was assumed to be $206,600,000.

Local Sales Tax Revenue

A portion of local sales tax revenues is used to support transit services. In the past 24 years, taxable sales have grown at an average rate of about 6.5 percent per year. Beginning in 2001, this sales tax levy was raised to ½ percent from 1/4 percent in Weber, Davis, and Salt Lake Counties. In Weber and Davis Counties this amount is fully dedicated to Utah Transit Authority. In Salt Lake County 7/16 of a percent is dedicated to UTA and the remaining 1/16 percent is to be used for projects on the state highway system in the County.

Since this referendum, and the dramatic success of first the Sandy TRAX line and then the University of Utah TRAX line, pressure from the general public, business, and policy makers has increased to take more serious strides in building a robust transit system in the region. Community leaders are embracing transit for their communities and have passed resolutions in favor of an additional tax increase to support transit. In approving the Long Range Transportation Plan in December 2001, the Regional Council asked the WFRC staff to work with local officials to identify additional transit opportunities and potential funding sources.

The Wasatch Front Regional Council formed the Transit 2030 Committee to make recommendations for the transit portions of the Plan Update more robust. The Transit 2030 Committee consisted of representatives from both the public and private sectors, including local and state officials, chambers of commerce, the Utah Manufacturers Association and other business interests, Envision Utah, Utah Shuttle Service, and Utahns for Better Transportation.

The Transit 2030 Committee, held workshops for local officials to identify the transit needs for their communities in 2002. The Committee then evaluated the suggestions and recommended major transit improvements that should be pursued in the next 27 years. The Committee also identified the need to implement many of the projects on the Long Range Plan Update sooner than on the Plan adopted in 2001. The Transit 2030 Committee also reviewed a wide range of potential funding sources to pay for there improvements. Based on their analysis of the level of local support in other cities around the county, the support expressed by local officials in the region, and the results of public opinion surveys concerning the general public's support for more transit, the Transit 2030 Committee recommended that the region pursue an increase in local support for transit equivalent to a ½ percent sales tax through a referendum in November 2006.

Trans Com and the Regional Council adopted the Transit 2030 Committee's recommendation as a reasonable estimate of future local support for transit at their August 2003 meetings. Therefore, the Long Range Plan Update assumes that the voters will pass the equivalent of an additional ½ cent sales tax devoted to transit in November of 2006 and that the additional revenue will be available for improvements beginning in July of 2007. The Plan assumes that the rate of taxable sales will pick up again but to a conservative rate of 5.5 percent in 2005 and maintain that growth rate through 2030. The annual sales tax receipts discussed above amounts to $96,300,000 in FY 2004 and $252,000,000 in 2008. Projected total sales tax revenue for transit improvements equals $11,592,400,000.

User Fare Revenue

The UTA receives additional revenue from the daily operation of its bus and light rail system through user fares. The UTA's Strategic Plan states that it is the goal of the UTA to obtain 20 percent of its bus operating costs from patron fares. The WFRC assumed that UTA would receive fare revenue to cover approximately 20 percent of its bus operating costs. Light rail and commuter rail systems generally cover a greater share of their operating costs than bus operations. The WFRC assumes that fares would generate revenues equivalent to approximately 30 percent of light-rail spur, bus rapid transit, and enhanced bus operating costs and 40 percent of north/south TRAX and regional commuter rail operating costs. User fare revenue projection for the next 27 years equals approximately $2,482,600,000.

Other Revenue

The Utah Transit Authority receives revenues from other sources, mainly bank account interest, bus advertising, federal planning funds, and joint development. UTA currently receives $7,400,000 a year from these sources of revenue and is anticipated to receive another $75,000 beginning in 2004 from joint development. Approximately 80 percent is estimated to be derived from the WFRC area. The Long Range Financial Plan Update assumes that UTA will continue to receive these revenues and will receive 5.5 percent interest on its yearly balance. These revenues are anticipated to result in total receipts of $603,000,000 between 2004 and 2030. Table VIII-3 entitled "Projected Transit Revenues 2004 - 2030 summarizes the various federal, local sales tax, fares, and other revenues that will fund the 2030 LRP Update's recommended transit improvements for the next 27 years.

Table VIII-3

PROJECTED TRANSIT REVENUES
2004 - 2030

SOURCE	AMOUNT
Federal Revenues	
Section 5307 Formula Grants	$1,109,000,000
Section 5309 Discretionary Bus Grants	$165,000,000
Section 5309 New Start Grants	$2,243,000,000
Other Federal Grants	$257,000,000
Local Sale Tax Revenue	$11,592,000,000
User Fare Revenue	$2,483,000,000
Other Revenue	$603,000,000
Total Transit Revenue	**$18,453,000,000**

Flexible Funding

While the funds discussed above have been identified with either highways or transit, there is some flexibility in the use of many of these funds. Most of the federal funds can be used for either highways or transit under certain conditions. Interstate Maintenance, National Highway System, Surface Transportation Program, and Congestion Mitigation/Air Quality (CMAQ) funds can all be used for transit capital projects. FTA Section 5307 funds can be used for highway improvements if UTA has met all Americans with Disabilities Act requirements.

State highway user revenues, including Class B and C funds, must be used for highway improvements. However, eligible uses would include construction of bus turnouts along arterial streets and construction of joint use park-and-ride lots which can also serve transit riders. State and local general fund revenues that are currently dedicated to highway improvements could possibly be used to support transit's capital or operating expenses, with approval of local governing bodies. The local sales tax for transit is restricted to transit uses.

The Long Range Financial Plan does not anticipate a significant transfer of funds between highways and transit, since the projected funds for each will not meet all the future needs. However, CMAQ funds have been used in the past to purchase light rail vehicles, buses, and vans for UTA and are programmed to be used to construct several park-and-ride lots. The planning process will continue to consider the need for similar transfers in the future.

PROJECTED COSTS

The costs for making the needed improvements for both highways and transit as identified by the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 were analyzed. The costs to meet the projected needs of the 2030 Long Range Transportation Plan through the year 2030 were then estimated. These costs include those required to meet the needs identified in the Plans as well as cost estimates for general administration and the operation and maintenance of the existing transportation system. Projected costs for the highway improvements have been adjusted at an annual 3.0 percent inflation rate. Transit cost estimates include expenditures for bus and light rail operation and maintenance and capital costs. Projected costs for transit improvements have been adjusted at an annual 3.2 percent inflation rate.

HIGHWAY COST ESTIMATES

The Utah Department of Transportation estimated their cost to operate and maintain, preserve, and administer the state highway system. These various estimates are discussed below:

UDOT Operations: UDOT Operation costs include UDOT staff, planning and preliminary engineering, maintenance, snow plowing the highways, and other costs. UDOT estimated their administrative costs based on their past budgets. In 2003, UDOT's budget for Operations was approximately $153,600,000 statewide. This cost was inflated at two percent per year until 2030. A total of $5,538,000,000 has been estimated for UDOT operations expenses through the year 2030.

Contractual Maintenance: Contractual maintenance costs are the costs associated with short season maintenance projects that are contracted out such as: slurry seals, chip seals, and striping. UDOT estimated their contractual maintenance costs based on their past budgets. In 2003, UDOT's budget for contractual maintenance was $50,000,000 statewide. This cost will increase $5,000,000 in 2006 and then every 6 years after, in accordance with the gas tax increase until 2030. A total of $1,675,000,000 has been estimated for contractual maintenance for UDOT through the year 2030.

Signals, Spot Improvements, Lighting, and Barrier: Signals, spot improvements, lighting, and barrier activities include signing, marking, and signal installation and maintenance. UDOT estimated their costs for these activities. UDOT's maintenance cost for 2003 was $10,900,000 statewide. These costs were increased by 3.0 percent a year to account for cost inflation. Based on Utah Department of Transportation assumptions, UDOT will have approximately $488,000,000 for signals, spot improvements, lighting and barrier expenses between 2004 and 2030.

Bridge Preventative Maintenance: The Utah Department of Transportation estimated their statewide costs for bridge preventative maintenance activities at $10,000,000 in 2003. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, approximately $649,000,000 will be set aside for bridge preservation for the years 2004 through 2030.

Bridge Rehabilitation / Replacement: UDOT estimated bridge rehabilitation and replacement costs for 2004 through 2030 based on the 2003 budget of $4,700,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, $356,000,000 will be used for bridge rehabilitation and replacement for the years 2004 through 2030.

Highway Rehabilitation / Replacement: The Utah Department of Transportation estimated highway rehabilitation and replacement costs for 2004 through the year 2030 based on the 2003 budget of $28,100,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, $2,027,000,000 will be used for highway rehabilitation and replacement for the years 2004 through 2030.

Hazard Elimination, Safety, Enhancements: Hazard elimination, safety, and enhancements include hazard elimination, intersection upgrades, railroad crossing improvements, other similar projects and the development of pedestrian facilities, bicycle facilities, and landscaping projects. UDOT estimated their statewide costs for these activities at $7,500,000 in 2003. Approximately 10 percent of STP funds are spent on enhancement projects. These costs were increased by three percent a year to account for cost inflation. Based on Utah Department of Transportation assumptions, UDOT will have $314,000,000 for hazard elimination, safety and enhancement expenses between 2004 and 2030.

Region/Department Contingencies: UDOT Region and department contingencies are used for overruns on projects, spot improvements and other immediate needs. UDOT estimated their statewide costs for these activities at $3,500,000 in 2003. This cost will increase $400,000 in 2006 and then every 6 years after, in accordance with the gas tax increase until 2030. Based on Utah Department of Transportation assumptions, UDOT will have $121,000,000 for region and department contingency expenses between 2004 and 2030.

Table VIII-4 summarizes the projected state highway costs for 2004 through 2030 for each of the eight expenditure categories described above.

Table VIII-4

PROJECTED STATE HIGHWAY COSTS
2004 – 2030

EXPENDITURE	AMOUNT
Statewide Highway Operating and Preservation Costs	
UDOT Operations	$5,538,000,000
Contractual Maintenance	$1,675,000,000
Signals, Spot Improvements, Lighting, Barrier	$488,000,000
Bridge Preventive Maintenance	$649,000,000
Bridge Rehabilitation / Replacement	$356,000,000
Highway Rehabilitation / Replacement	$2,027,000,000
Hazard Elimination, Safety, Enhancements	$314,000,000
Region / Department Contingencies	$121,000,000
Total Statewide Highway Operating and Preservation Costs	**$11,168,000,000**

Local Highway Cost Estimates

Six local cost categories were estimated, including administration, maintenance, pavement preservation, traffic operations and safety, and enhancements. The total costs estimated for the various types of costs are discussed below. These assumptions are based on a survey of local agencies concerning their expenses. Growth and inflation assumptions were applied to these cost totals from 2004 through 2030. The WFRC then estimated its share of these costs for the same period of time for each of the categories. Appendix D contains details on the estimated costs used for projecting administration, maintenance, pavement preservation, structure preservation, traffic operations and safety, and enhancements.

Administration: Administration costs are the costs associated with administering transportation agencies and transportation sections of larger public works departments. These costs include such expenditures as local staff, planning and preliminary engineering costs, and so on. Cities and counties along the Wasatch Front are estimated to spend 15 percent of their revenues for transportation projects on administration. A total of approximately $977,000,000 has been estimated for local administration costs through the year 2030.

Maintenance: Maintenance activities include snow removal, sweeping, weed control, crack sealing and pothole patching. Estimates of local spending for maintenance were calculated from city and county financial reports. Local maintenance costs were estimated to be approximately $1,500 per lane mile. These costs were estimated to increase by three percent a year, while the number of lane miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane miles. A total of approximately $809,000,000 has been estimated for local maintenance costs from 2004 to 2030.

Pavement Preservation: Pavement preservation actions are treatments for streets and highways, which

are more intensive than maintenance. These treatments range from a chip seal up to a full reconstruction. Local pavement preservation costs were calculated based on experience from city and county financial reports. Local agency costs for pavement preservation are estimated, on average, at about $4,100 per lane mile per year for collector, arterial and local streets. These costs were estimated to increase by three percent a year. The Wasatch Front Urban Area has 8,875 lane miles of collector, arterial and local streets. The number of lane miles was assumed to grow at one percent a year. A total of $2,185,000,000 has been estimated for local pavement preservation costs for the years 2004 through 2030.

Traffic Operations and Safety: Traffic operations activity includes signing, marking, and signal installation and maintenance. Safety improvements include hazard elimination, intersection upgrades, railroad crossing improvements, and other similar projects. Local agency costs for traffic operations and safety are estimated, on average, at about $2,100 per lane mile per year for collector, arterial and local streets. These costs were estimated to increase by three percent a year, while the number of lane miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane miles. A total of $1,096,000,000 has been estimated for local traffic operations and safety costs for the years 2004 through 2030.

Enhancements: Enhancements include development of pedestrian facilities, bicycle facilities, and landscaping projects. Local enhancement costs were estimated to be approximately $400 per lane mile. These costs were estimated to increase by three percent a year, while the number of lane miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane miles. A total of $218,000,000 has been estimated for local enhancement costs through the year 2030.

Table VIII-5 summarizes the projected local highway costs for 2004 through 2030 for each of the six expenditure categories discussed above.

Table VIII-5

PROJECTED LOCAL HIGHWAY COSTS
2004 – 2030

EXPENDITURE	AMOUNT
Local Highway Costs	
Administration	$977,000,000
Maintenance	$809,000,000
Pavement Preservation	$2,185,000,000
Traffic Operations and Safety	$1,096,000,000
Enhancements	$218,000,000
Total Local Highway Costs	**$5,285,000,000**

TRANSIT COST ESTIMATES

The costs for making the needed transit improvements as identified by the Wasatch Front Urbanized Area Long Range Transportation Plan Update: 2004-2030 were analyzed. These costs include those required to meet the needs identified in the 2030 LRP Update, as well as costs estimates for general administration and the operation and maintenance of the existing transportation system.

The WFRC worked with UTA to estimate the costs to implement the 2030 LRP Update's recommended transit improvements in the Wasatch Front Urban Area. Included in these estimates are operating and maintenance costs as well as capital costs for both existing and expanded services. Recommended major capital investments are considered the construction of the proposed commuter rail, light rail, bus rapid transit, and enhanced bus lines. Other significant capital investments are the purchase of replacement and expansion vehicles and the installation of improvements to increase the speed, comfort, and connectivity of transit services. These estimated costs are discussed below.

Operating and Maintenance Costs: Operating and maintenance costs are the total non-capital costs associated with transit services. Local and paratransit bus service costs were based upon revenue miles traveled because the specific nature of the routing was unknown. Regional Commuter Rail was also based upon vehicle revenue miles because of the source material used. Light rail transit, bus rapid transit, and enhanced bus operating and maintenance costs, however, were based upon vehicle hours of service which takes into account estimated travel speeds.

In 2002, the Wasatch Front Urban Area had about 18,443,000 revenue miles in its regular bus service and another 4,400,000 revenue miles in its paratransit services. The Wasatch Front Urban Area Long Range Transportation Plan Update recommends regular bus service to increase by 100 percent and paratransit to increase by another 50 percent by the year 2030. The annual operating and maintenance costs of regular bus service in 2002 was $78,300,000 and the annual cost of Flextrans service was $14,900,000. The projected annual cost of the recommended regular and paratransit bus systems, including the 4.2 percent inflation factor, is $477,000,000 in 2030. Bus rapid transit and enhanced bus are anticipated to add an additional $89,000,000 to this 2030 operating cost.

Regional commuter rail operating costs are influenced by the economies of scale present in its operations. Accordingly, a per car mile cost of $10.63 was used for Ogden to Salt Lake service whereas this cost was reduced to $8.86 for the larger Provo to Ogden run. Twenty minute peak frequencies and forty minute off peak frequencies were assumed on week days and sixty minute peak hour frequencies were assumed on non-weekdays. Additionally, three-car, peak-hour trains and one-car, off-peak trains were assumed. This would cost the WFRC $19,720,000 per year in 2008 when running from Ogden to Salt Lake and $25,983,000 per year in 2011 to run between the Utah County Line and Ogden when running between Provo and Ogden.

Operating and maintenance costs are based upon vehicle hours of service and take into account projected travel speeds. UTA light-rail vehicle operating costs per revenue hour are $178.23. UTA bus operating costs was $27.50 per revenue hour plus $0.90 per revenue mile. Headways for these services were assumed to match that of the existing TRAX service. About three vehicles per train were assumed for the north/south line and about two vehicles per train were assumed for rail spurs, whereas single vehicles were assumed for BRT and enhanced bus. Weekend and holiday service were assumed to be half that of current TRAX weekday service.

Capital Costs: UTA will need to replace its existing fleet of buses and rail vehicles as well as expand its bus and rail fleet to provide the recommended levels of service in the year 2030. The average age of the current fleet is about seven years and, generally speaking, buses last about 12 to 14 years in service. The per bus cost ranges from $275,000 for a 40 foot bus to $470,500 for an articulated bus. Light-rail vehicles last 30 years and cost $2.2 million each. In order to expand service as recommended, an additional 506 buses or paratransit vans, 116 bus rapid transit vehicles, 83 light-rail vehicles, and 43 commuter rail vehicles will need to be purchased and housed. Factored into the cost of each expansion vehicle is the costs of its maintenance facility. UTA estimates these facility costs to be $500,000 for each new rail vehicle and $250,000 for each new bus or BRT vehicle.

The 2030 Long Range Transportation Plan Update recommends the construction of a regional commuter rail line, an enhanced bus line, and several light-rail and bus rapid transit lines by 2030. These construction costs include the fixed-guideways, stations, and structures.

The financial plan allocated sufficient funding to build a regional commuter rail from Ogden to Salt Lake, from Salt Lake to Utah County, and from Ogden to 2700 North in Pleasant View. The WFRC's contribution to this line's capital costs is anticipated to be $637,000,000 in year of expenditure dollars.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommendations include enhancements to the north/south TRAX line of several light rail extensions. UTA's light rail construction estimates of $30 million per downtown mile, $25 million per suburban mile, and $11 million per existing right-of-way mile, as well as park-and-ride/station costs, $10 million per structure, $2.2 million per vehicle, and a 20 percent contingency cost was used to model each of the proposed lines. The projected capital costs in year of expenditure dollars were $195 million for north/south enhancements, $298 million for the Airport Line, $19 million for the intermodal center Line, $40 million for the Sugarhouse Line, $245 million for the West Valley Line, $439 million for the 3500 South Line, $151 million for the Mid-Jordan Line, $166 for the Daybreak Line, $76 million for the Draper Line, and $298 million for the Traverse Line. Total year of expenditure light rail line costs are anticipated to be $1,908,000,000.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 also recommends several bus rapid transit lines. The construction costs of each bus rapid transit line were estimated based upon the construction of bus lanes where congestion is anticipated to be severe and the use of signal priority and queue jumpers at each signalized intersection, as well park-and-ride/station costs, $10 million per structure, $1 million per vehicle, and a 35 percent contingency cost. Bus lane costs were estimated at $13 million per downtown mile, $8 million per suburban mile, and $4 million per existing right-of-way mile. The projected capital costs in year of expenditure dollars were $96 million for the Washington Boulevard BRT, $52 million for the Ogden/WSU BRT, $198 million for the North Davis BRT, $100 million for the South Davis BRT, $235 million for the Tooele BRT, $79 million for the Fort Union BRT, $191 million for the 1300 East BRT, $173 million for the Redwood Road BRT, and $601 million for the Mountain View BRT. Total year of expenditure bus rapid transit line costs are anticipated to be $1,725,000,000. The Foothill/I-215 enhanced bus line, with out specialized vehicles or exclusive rights-of-way, is anticipated to cost 80 million in year of expenditure dollars.

Other Capital and Operating Costs: Many of the miscellaneous costs associated with UTA operations as well as the rideshare operations are included in the operating and maintenance costs discussed in the operating and capital costs above. One important exception is debt service. The Long Range Financial

Plan Update assumes that UTA will receive 7.0 percent (1.5 percent more than it earns on its positive balances) on its yearly debt.

Other capital costs include intermodal centers, transit hubs, additional park-and-ride lots, bus stop improvements, and intelligent transportation system capital projects. Intermodal centers are recommended for Ogden, Salt Lake (600 West 200 South), West Valley, and the Murray/Midvale area. The costs for the first three of these centers were derived from their environmental assessments. The cost for the Murray/Midvale center was estimated to be the same as the West Valley center at $7.5 million uninflated dollars. Transit hubs are recommended for each commuter rail station, Weber State University, the Airport/North Temple area, the University of Utah, Sugarhouse, West Jordan, and Fort Union. The cost for each of these hubs was estimated to be $4.7 million uninflated dollars. Park-and-rides, in addition to those in fixed-guideway corridors, are recommended for several locations. The cost for each of these park-and-rides was estimated to be $2.4 million uninflated dollars. Table VIII-6 summarizes projected transit capital and operating costs that will be needed between 2004 and 2030 to expand and improve the existing UTA system.

Table VIII-6

PROJECTED TRANSIT CAPITAL AND OPERATING COSTS
(INCLUDING ALLOCATED DEBT SERVICE)
2004 - 2030

EXPENDITURE	2004-2012	2013-2022	2023-2030	Total (2004-2030)
Bus Operating Costs	$972,000,000	$1,832,000,000	$2,633,000,000	$5,437,000,000
Bus Capital Costs	$172,000,000	$347,000,000	$538,000,000	$1,057,000,000
Paratransit Operating Costs	$196,000,000	$373,000,000	$501,000,000	$1,070,000,000
Paratransit Capital Costs	$17,000,000	$28,000,000	$30,000,000	$75,000,000
BRT & Enhanced Bus Operating Costs	$71,000,000	$408,000,000	$682,000,000	$1,160,000,000
BRT & Enhanced Bus Capital Costs	$526,000,000	$1,389,000,000	$0	$1,915,000,000
Rail Operating Costs	$583,000,000	$1,591,000,000	$1,796,000,000	$3,970,000,000
Rail Capital Costs	$1,795,000,000	$699,000,000	$140,000,000	$2,634,000,000
Other Capital and Operating Costs	$195,000,000	$67,000,000	$86,000,000	$348,000,000
Total Transit Costs	**$4,526,000,000**	**$6,735,000,000**	**$6,406,000,000**	**$17,667,000,000**

Conclusion

The Long Range Transportation Plan Update estimates the cost to provide new capacity for collector and arterial streets that will be needed to meet the transportation demands in 2030. These costs are approximately $9,524,000,000 in the Wasatch Front Urban Area. The cost for local street construction is not included in these estimates. It is assumed that private developers will build these streets.

The Wasatch Front Regional Council receives 55 percent of the UDOT funding available for capacity projects. This equals approximately $6,770,000,000 of the $12,309,000,000 total new capacity funds available for UDOT. The region also receives approximately $635,000,000 for Centennial Highway Fund projects, for a total of $7,405,000,000 available capacity funds from UDOT. The WFRC also estimates that approximately $2,318,000,000 will be available for Local capacity projects. The Wasatch Front Regional Council's total amount for planning capacity projects is approximately $9,723,000,000. Table VIII-7 outlines revenue allocation for statewide and local highway improvements recommended by the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

Table VIII-7

STATEWIDE, LOCAL, AND REGIONAL HIGHWAY REVENUE ALLOCATION 2004 - 2030

EXPENDITURE	AMOUNT
Statewide Revenue Available	$23,477,000,000
Statewide Highway Operating Costs	($11,168,000,000)
Available Funds for Capacity	**$12,309,000,000**
WFRC's Available Funds for Capacity from State Funds	**$7,405,000,000**
Regional Revenue Available	$1,266,000,000
Local Revenue Available	$6,337,000,000
Local Highway Operating Costs	($5,285,000,000)
WFRC's Available Funds for Capacity from Local Funds	**$2,318,000,000**
Total WFRC's Available Funds for Capacity	**$9,723,000,000**
Total WFRC Highway Project Costs 2004-2030	**$9,524,000,000**

The Financial Plan for the Wasatch Front Urbanized Areas provides adequate revenues to not only address the needs to operate and maintain the existing highway and transit systems, but to provide for future demand. A recognized need to increase long range highway capacity is addressed in 177 funded projects designed to improve the overall highway system through increased capacity. The transit portion of the Plan allows for a substantial increase in the existing bus and rideshare van fleet, the expansion of the Region's light rail system, and the implementation of regional commuter rail service from Ogden to Provo.

IX. CONTINUED PLANNING AND UPDATE

Regional transportation planning, to be effective, must be a continuing process. Changing development patterns resulting from the continued growth in the region, fluctuating economic conditions, and shifting environmental concerns all impact the need for transportation in the Wasatch Front Urban Area and the types of improvements required to meet those needs.

The Wasatch Front Regional Council has established a process to update and maintain the long range transportation plan. The WFRC will continuously monitor the development taking place and the progress in implementing the recommendations of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The WFRC also works with other agencies to address congestion, pavement preservation, and bridge replacement and rehabilitation needs through the management systems and to conduct corridor and environmental studies for major highway and transit projects studies and local master plan updates to help refine the recommendations of the 2030 LRP Update.

Local cities and counties of the Wasatch Front, UDOT, and UTA are responsible for the implementation of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The WFRC works with these agencies to encourage them to pursue the facilities recommended in the 2030 LRP Update and incorporates these projects in a five-year Transportation Improvement Program (TIP). Appendix J contains a summary of the 2004-2008 TIP. The WFRC continues to update its planning capabilities through improvements to the region's travel models. Finally, the Wasatch Front Regional Council continues to update the process used to develop the long range transportation plan and is planning to address new issues in future updates. Each of the components of this continuous process is discussed in more detail below.

SYSTEM MONITORING

The WFRC annually publishes a Surveillance of Land Use and Socioeconomic Characteristics report which contains current population and employment data for the region. The development and adoption of the Wasatch Front Urban Area's Transportation Improvement Program each year allows the WFRC to monitor the implementation of recommended 2030 LRP Update projects and to reevaluate the needs of the Wasatch Front Urban Area. The Utah Department of Transportation's highway traffic surveillance data, published every two years, along with periodic Utah Transit Authority ridership updates, will contribute information needed to update the 2030 LRP. Also, as part of the continuing planning process, the WFRC and the Salt Lake and Ogden/Layton Area Transportation Advisory Committees will continue to identify and respond to issues which impact the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

MANAGEMENT SYSTEMS

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 addresses the need to provide increased capacity to meet the growing travel demand in the region. Because of financial and other constraints, the recommendations of the 2030 LRP Update will not meet all of the demand in the year 2030. Travel demand management and transportation system management strategies will be needed to mitigate some of the continuing traffic congestion anticipated in the

future. In addition to meeting the growing travel needs, the transportation system needs to be maintained and preserved and to provide for safe and secure travel. The WFRC addresses these congestion, preservation, and safety needs through several management systems developed in cooperation with, UDOT, UTA, and others. Funding to pay for the recommendations of the management systems is included in the Financial Plan for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

Beginning with ISTEA, federal legislation has required a Congestion Management System (CMS) in all Transportation Management Areas (TMAs). Since October 1997 the Regional Council has had fully operational CMSs for the Salt Lake and Ogden/Layton Areas. The purpose of a CMS is to recommend actions to maximize the efficiency of the existing and future transportation system. Congestion Management Subcommittees of the Salt Lake and Ogden/Layton Area Technical Advisory Committees work with WFRC staff to refine and implement the CMSs. The subcommittees monitor and provide input to implementation of congestion mitigation strategies on both a regional and a site-specific basis.

For all projects in the five-year TIP that increase single occupant vehicle (SOV) capacity, the WFRC and the CMS subcommittees develop site-specific system management and demand management strategies that should be incorporated into each project. For all widening and new construction projects, the CMS also demonstrates that system management and demand management strategies by themselves will not meet the travel demand on a particular facility, or in other words, that additional SOV capacity is needed.

UDOT uses a Pavement Management System and a Bridge Management System to develop its recommendations for pavement and bridge projects to include in the TIP. These systems identify the necessary maintenance and preservation projects to maintain the existing system. WFRC has worked with UDOT to develop a pavement management system for the Salt Lake and Ogden/Layton Areas that recommends cost-effective and timely treatments. These recommendations have begun to be considered in the development of the TIP.

Safety and security are of increasing importance. UDOT also has established procedures for identifying high hazard locations and selecting cost-effective projects for the use of federal safety funds. UTA and UDOT are working with other state and federal agencies to address security needs.

PLAN REFINEMENT STUDIES

In addition to preparing the long range transportation plan, the WFRC works with UDOT, UTA, and local communities on alternatives analyses, environmental studies, corridor studies, and master plan updates to help refine the recommendations of the long range transportation plan as well as to assist in implementation of the plan's recommendations themselves.

ISTEA and TEA-21 require that where major highway and transit improvements are planned, an Alternatives Analysis (AA - previously referred to as a Major Investment Study - MIS) be conducted as part of the planning process. The purpose of the analysis/study is to provide input when refining the long range transportation plan and allow for decisions to be made on the scope of the improvement(s) during the planning process, which is prior to project development and engineering. Several major investment studies and/or alternatives analysis have been completed or are currently

underway in the Wasatch Front Urban Area, for both highway and transit corridors. Each of the corridors for which an alternatives analysis is needed or underway, or for which a MIS is completed is discussed below:

Mountain View Corridor from I-80 to the Salt Lake/Utah County Line- The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommends the Mountain View Corridor (formerly the Western Transportation Corridor) include a six-lane freeway, which would include grade separations (interchanges) at major cross streets, to 13400 South, a six-lane arterial or expressway south of 13400 South, and a bus rapid transit line from I-80 to the south end of Salt Lake County. The WFRC, UDOT, and local communities in the corridor conducted a planning study evaluating alternative alignments and recommended a preferred corridor alignment. Much of the corridor has been, or is actively being, preserved, through efforts by local communities, UDOT, and WFRC. UDOT in cooperation with the local communities, UTA, and the WFRC is currently preparing an Environmental Impact Statement for the corridor that is looking at both highway and transit alternatives.

2000 East from I-215 to I-15 - The Wasatch Front Urban Area Urban Area Long Range Transportation Plan Update : 2004-2030 recommends this road be a four to six-lane principal arterial street with at-grade intersections and limited access. The WFRC has completed a MIS/DEIS for this corridor. A final environmental document will need to be prepared and approved.

I-15 from 600 North (Salt Lake City) to 200 North (Kaysville) - The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommends an additional general purpose and/or HOV lane in each direction be added to I-15 from 600 North (Salt Lake City) to US-89 (Farmington). UDOT has prepared an MIS/DEIS for this project. UDOT is working to prepare the final environmental documents for this project.

Legacy Parkway from I-215 in Salt Lake County to US-89 in Davis County - The Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030 recommends a four-lane freeway be constructed from I-215 to US-89. The WFRC has completed a MIS for the entire Legacy Parkway corridor from I-80 in Salt Lake County to 12th Street in Weber County. UDOT prepared a FEIS for the section from I-215 (North Salt Lake) to US-89 (Farmington) and is now working with the FHWA and the Army Corps of Engineers to prepare a Supplemental EIS to address additional issues. Construction of the Burke Lane Interchange upgrade at I-15 and US-89 that will be the north end of this project is underway.

Legacy Parkway from US-89 in Davis County to 12th Street in Weber County - The Wasatch Urban Area Long Range Transportation Plan Update: 2004-2030 recommends that a four-lane principal arterial street be built from US-89 to 5500 South in Weber County. For the portion of this corridor from 5500 South to 12th Street, the 2030 LRP Update recommends that a right-of-way be preserved for a future facility. The WFRC has completed a MIS for the entire corridor from I-80 in Salt Lake County to 12th Street in Weber County. In addition, the WFRC, UDOT, and local communities completed a corridor study to identify and evaluate alternative alignments for this facility between US-89 and 12th Street in Weber County. A preferred corridor alignment was recommended. Efforts to preserve the corridor are being made by the local communities, UDOT, and WFRC. Final environmental documents will need to be prepared and approved for this section of the Legacy Parkway.

Regional Corridor from Payson to Brigham City - The Wasatch Front Regional Council, in cooperation with Mountainland Association of Governments (MAG), UDOT, UTA, and local communities, completed an alternatives analysis which identifies options for future highway and transit improvements for this inter-regional corridor, Payson to Brigham City. This analysis examined a wide variety of alternatives and recommended highway widening improvements and new roadways, HOV lanes, commuter rail, and bus rapid transit service. UTA is preparing the necessary environmental studies to implement commuter rail service between Ogden and Salt Lake City.

Light Rail Transit Extensions - The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommends the expansion of Salt Lake County's light rail transit system. The five additional corridors recommended are in various stages of development.

Downtown Salt Lake City to the University of Utah Medical Center -- The WFRC completed the MIS/DEIS/FEIS for a light rail line from the Salt Lake International Airport to the University of Utah. The Final Design for the University of Utah to Salt Lake Central Business District section was approved and construction has been completed and the entire segment is open for operations.

Downtown Salt Lake City to the Salt Lake City International Airport -- The WFRC completed the MIS/DEIS/FEIS for a light rail line from the Salt Lake International Airport to the University of Utah. These studies will need to be reviewed before final design and construction can begin.

West Valley City Corridor -West Valley City completed a MIS for a corridor extending from UTA's existing north-south TRAX line to the Valley Fair Mall/City Hall area. This MIS designated a LRT alignment as the Locally Preferred Alternative. This same study included an Environmental Assessment (EA) for the West Valley City Intermodal Center. A Finding Of No Significant Impact (FONSI) for the EA was issued for the Intermodal Center. The WFRC and UTA are currently preparing a DEIS for the light rail project in this corridor.

Mid-Jordan Corridor –The WFRC completed a feasibility study for potential light rail transit corridors in the south part of Salt Lake County. The study found that light rail transit is feasible in a corridor extending from UTA's existing north-south TRAX line through Midvale and West Jordan to South Jordan. The WFRC and UTA are currently preparing a DEIS for this corridor.

Draper Extension – The WFRC completed a feasibility study for potential light rail transit corridors in the south part of Salt Lake County. The study found that light rail transit is feasible in a corridor extending from the existing terminus of UTA's north-south TRAX line in Sandy along the UTA-owned rail corridor to Draper. UTA and the WFRC in cooperation with Sandy and Draper will conduct an alternatives analysis for this corridor during 2004.

US-89 from I-15 to Harrison Boulevard - The 2030 LRP Update recommends US-89 be upgraded to an expressway with interchanges. The recommendations are that a general-purpose lane be added in each direction to this section of US-89 and that interchanges are constructed at major cross streets. The recommendations were developed through a corridor study and an environmental impact study. These studies fulfill the MIS and environmental requirements for this project.

I-15 from SR-232 (Layton) to 2700 North (Pleasant View) - The 2030 LRP Update recommends additional lanes be added in each direction, to this section of I-15. A DEIS is underway for the section from 31st Street in Ogden to 2700 North. Studies for the section from SR-232 to 31st Street will need to be pursued.

Other special studies are currently underway, or will shortly begin, that will help refine the recommendations of the 2030 LRP Update. These studies include:

Riverton Area Transportation Study – Riverton in cooperation with UDOT and UTA is studying the needs along the Bangerter Highway from 12600 South to 13400 South near the new Intel campus to identify highway and transit improvements to serve the area.. The recommendations of this study will be considered as the 2030 LRP Update is revised in the future.

South Davis County Transit Needs Analysis - The 2030 LRP Update recommends a bus rapid transit (BRT) facility to connect downtown Salt Lake City to the south Davis county communities. The six cities in south Davis County (North Salt Lake, Woods Cross, Bountiful, West Bountiful, Centerville, and Farmington) along with Davis County, Salt Lake City, UTA, and the WFRC are beginning a study to identify the need for transit improvements in the corridor. The study will also determine the feasibility of various alternatives, including BRT and light rail.

Downtown Ogden to Weber State University Transit Needs Analysis - The 2030 LRP Update recommends a bus rapid transit (BRT) facility to connect the downtown Ogden Intermodal Facility to Weber State University. Ogden City, along with UTA and the WFRC, will begin a study to identify the need for transit improvements in the corridor in 2004. The study will also determine the feasibility of various alternatives, including BRT and light rail.

Transit Development Program - The Utah Transit Authority and the Wasatch Front Regional Council prepare on a regular basis a five year, short range plan for service, operation costs, and capital facilities improvements to implement the 2030 LRP Update.

TRANSPORTATION IMPROVEMENT PROGRAM

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommended highway and transit projects are implemented through the programming of federal and other highway and transit funds in the Transportation Improvement Program. The Wasatch Front Regional Council, as the Urbanized Area's Metropolitan Planning Organization, has the responsibility of preparing and approving a Transportation Improvement Program for the Wasatch Front Region. The TIP is a requirement of both the Federal Highway Administration and the Federal Transit Administration. Both agencies require that federally funded transportation projects in a Metropolitan Area be included in an MPO approved Transportation Improvement Program.

The Wasatch Front Regional Council's Transportation Improvement Program is a five-year program of highway, and transit projects for the Salt Lake and Ogden/Layton Urbanized Areas. It is a compilation of projects from the various federal, state, and local funding programs for all the cities and counties in the Region, as well as for the Utah Department of Transportation and the Utah Transit Authority.

Projects included in the program will implement the long range highway and transit plans for the Region, meet the short range needs of the area, and provide for the maintenance of the existing transportation system. The Salt Lake and Ogden/Layton Urbanized Areas includes all of Salt Lake and Davis Counties and the western urbanized portion of Weber County.

The federal-aid projects in the TIP are divided into four categories — Urban Area Surface Transportation Program projects, Congestion Mitigation/Air Quality projects, other Federal-Aid highway projects, and Federal-Aid transit projects. The Wasatch Front Regional Council is responsible for developing in cooperation with the Utah Department of Transportation and the Utah Transit Authority these federal highway and transit programs and including them in the TIP.

During the TIP development process, projects from the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 are evaluated, along with projects from the management systems. During this process, the State Air Quality Implementation Plan is reviewed for recommended Traffic Control Measures, which need to be implemented. These measures are given priority in selecting projects for the TIP. Eligible projects are identified for each of the highway and transit funding categories. Projects are evaluated and priorities set within each funding source. The recommended projects receiving the highest priority are included in each program. These separate programs are then combined to form the TIP. The Wasatch Front Regional Council, in consultation with UDOT and UTA, is responsible for developing the Salt Lake and Ogden/Layton Area Transportation Improvement Program.

Once the TIP is compiled, the WFRC conducts an analysis to determine if the TIP conforms with the state air quality plans. This conformity analysis is made available to the State Division of Air Quality and the public for review and comment. The Federal Highway Administration and Federal Transit Administration must concur in this finding.

A Transportation Improvement Program, containing the recommended programs along with the conformity determination is submitted to Trans Com annually for their review. The Councils of Governments also have an opportunity to review and comment on the TIP. Appropriate adjustments are made and a final TIP is developed. The final conforming TIP is then recommended to the Wasatch Front Regional Council for its approval. Following Wasatch Front Regional Council's approval, the Executive Director of the Utah Department of Transportation (as the Governor's designee) must review and approve the TIP and the Utah State Transportation Commission must include the TIP without modification in the Statewide Transportation Improvement Program.

MODELING CAPABILITIES

The Wasatch Front Regional Council uses travel forecasting models to project future traffic and transit ridership based on forecasted land use characteristics. These travel forecasts are used to identify the needed highway and transit improvements to the transportation system. The Wasatch Front Regional Council will continue to upgrade its traffic modeling capabilities over the next three years to be able to better represent freight (truck) traffic in the travel demand modeling process and to allow for more comprehensive freight planning. WFRC is somewhat limited in its ability to model freight (truck) traffic, but will soon be able to model the kinds of scenarios like the moving of Union Pacific Railroad's intermodal freight center to Salt Lake City's west-side, as well as test the effect that different public policies may have on freight. Other planned improvements to the travel demand

models include incorporating market segmentation into trip distribution and further enhancements in the traffic assignment process. In addition, a home interview survey is anticipated in the fall of 2004 to provide data with which models can be recalibrated.

FUTURE PLAN UPDATES

Future revisions to the 2030 LRP Update will place greater emphasis on considering the relationship between the transportation system and land use and in incorporating NEPA principles with the planning process. The Wasatch Front Regional Council reorganized its Regional Growth Committee (RGC) in September 2003 to serve as a counterpart to Trans Com in the planning process. The RGC will be responsible for overseeing future long range transportation plan updates, while Trans Com will continue to be responsible for short range planning, including the preparation of the TIP.

Future long range transportation plans will continue to be based on land use included in approved local master plans. However, the WFRC will make a significant effort to consider the impacts on future development patterns of major transportation improvements. Also, the WFRC will work with the state and all local jurisdictions to identify alternative development scenarios and evaluate how they would change the future travel demand in the region.

By addressing NEPA issues in the planning process, the WFRC hopes to streamline the project development process for project sponsors. To address these issues, the WFRC will make a greater effort to identify and evaluate multi-model alternatives in major transportation corridors, increase the public involvement opportunities regarding these major corridors, address environmental factors in the evaluation process, and prepare a draft purpose and need statement that could be used as a basis for the preparation of the necessary environmental studies.

The Wasatch Front Regional Council reviews the recommendation of the long range transportation plan at least every three years and updates it as necessary. The next revision to the 2030 LRP Update will occur by December 2006.

X. GLOSSARY OF TERMS

ADVANCE CONSTRUCTION (AC) - A plan whereby the State, Cities, or Counties may utilize their own funds to temporarily fund federal-aid projects when federal fund apportionment for a fiscal year has been expended. Funding is then converted to federal-aid when new apportionment is received at the beginning of a new fiscal year.

AMERICANS WITH DISABILITIES ACT (ADA) - A civil rights law enacted in 1990 that prohibits discrimination against people with disabilities in the areas of employment, transportation, telecommunications, and public accommodation. Special facilities to accommodate persons with disabilities, such as special low curb cuts at intersections for wheelchair traffic, are required by law.

APPORTIONMENT - Federal-aid funds appropriated to each state over a multi-year period as a result of an act of Congress. Current funding is authorized by the Transportation Equity Act for the 21st Century signed into law in June, 1998. Funds are allocated in a number of different categories and have certain restrictions for use within those categories.

ARTERIALS - Include those classes of highways emphasizing a high level of mobility for the through movement of traffic. Land access is subordinate to this primary function. Generally, travel speeds and distances are greater on these facilities compared to the other classes. The highest classes of arterials, interstates and freeways, are limited access to allow the free flow of traffic.

AVERAGE DAILY TRAFFIC (ADT) - The average number of vehicles passing a given point on a roadway in a 24-hour day.

BIKEWAY - Any road, street, or path that is designated to accommodate bicycle travel. Bikeways do not have to be separated facilities and may be shared with other travel modes.

BUS RAPID TRANSIT (BRT) - Bus Rapid Transit is a rubber wheeled self-propelled transit mode capable of operating in ordinary mixed traffic, limited purpose lanes, exclusive lanes, on aerial structures, and in subway. Bus Rapid Transit is characterized by, but not limited to, distinct vehicles using bus lanes, technology, and limited stops to combine light rail like speeds and convenience with bus flexibility. For the purpose of the 2030 LRP Update, Bus Rapid Transit includes modern, high-capacity buses; segments of bus lanes to avoid significant congestion; light-rail like stations, queue jumpers, and signal priority. Station spacing is generally at one-mile intervals outside of the Central Business District. Operating frequencies are assumed to mirror that of the current Salt Lake to Sandy TRAX Line.

CAPACITY DEFICIENCY - Occurs when the number of vehicles on a roadway exceeds the desired level of service threshold volumes for that roadway.

CAPITAL FUNDS - Funding dedicated to new projects or projects to improve or replace elements of the transportation system, including freeway widening, rail extensions, transit station improvement, new bicycle and pedestrian lanes, and so forth (Also see "Operating Funds.")

CARBON MONOXIDE (CO) **-** Is a colorless gas formed by incomplete combustion of fuel. Anywhere combustion takes place (i.e., industrial processes, home heating, etc.) high concentrations of carbon monoxide can develop.

COLLECTORS - Roads and streets that collect traffic from the lower facilities and distribute it to the higher facilities. Collectors provide both mobility and land access. Generally, trip lengths, speeds, and volumes are moderate.

COMMUTER RAIL - Commuter trains are typically electric or diesel propelled passenger trains operating on the general, freight railway network, within an urban area or between an urban center and it's outlying suburban communities. The principal passenger community is persons making single day return trips within an urban metropolitan area. For the purpose of the 2030 LRP Update, this includes diesel Push/Pull trains as well as Federal Railroad Administration Compliant Diesel Motorized Units with generally five mile station spacing outside of the Central Business District. It excludes electrified trains.

CONGESTION MANAGEMENT SYSTEMS (CMS) - A process of identifying congested locations, evaluating strategies to mitigate congestion, recommending prioritized mitigation projects, and determining their effectiveness. Required by ISTEA in air quality non-attainment areas.

CONGESTION MITIGATION / AIR QUALITY PROGRAM (CMAQ) - Is a categorical program created under the Intermodal Surface Transportation Efficiency Act. It directs funding to projects that contribute to meeting national air quality standards.

CORRIDOR STUDIES - A typical highway or transit study focusing on a segment of a particular travel corridor. Land use, access issues, capacity, level of service, geometrics, impacts, and safety concerns are studied. Alternatives are developed and analyzed, and recommendations are made. Corridor studies are usually prepared with the participation of the affected communities and government agencies.

DELAY - A unit of time measure reflecting increased travel time resulting from traffic congestion.

DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) **-** A document that provides a full description of the proposed project, the existing environment, and analysis of the anticipated beneficial and adverse environmental effects of all reasonable alternatives. (Also see "Final Environmental Impact Statement" (FEIS.).

ENHANCED BUS SYSTEM - Enhanced Bus, also known as Type I BRT, is a rubber wheeled self-propelled transit mode capable of operating in ordinary mixed traffic and limited purpose lanes but without significant exclusive lanes. Enhanced Bus is characterized by, but not limited to, standard vehicles using technology and limited stops to improve transit speeds. For the purpose of the 2030 LRP Update, Bus Rapid Transit includes standard articulated buses; light-rail like stations, queue jumpers, and signal priority. Station spacing is generally at one-mile intervals outside of the Central Business District. Operating frequencies are assumed to mirror that of the current Salt Lake to Sandy TRAX Line.

ENVIRONMENTAL ASSESSMENTS (EA) **-** A document prepared for federal actions where it is not clearly known how significant the environmental impact might be. If, after preparing an Environmental Assessment, it is determined that the project's impacts are significant, an Environmental Impact Statement is then prepared. If not, a "Finding Of No Significant Impact" (FONSI) is documented and issued by the FTA or FHWA. (Also see "Finding Of No Significant Impact.")

ENVIRONMENTAL IMPACT STATEMENT (EIS) - written statement containing an assessment of the anticipated significant beneficial and detrimental effects which the agency decision may have upon the quality of the human environment for the purposes of: (1) assuring that careful attention is given to environmental matters, (2) providing a vehicle for implementing all applicable environmental requirements, and (3) to insure that the environmental concerns are successfully addressed.

EXPENDITURE - In transportation terms, this is any allowable expense associated with particular project or program.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) - An administrative division of the United States Department of Transportation responsible for roadway programs throughout the country.

FEDERAL TRANSIT ADMINISTRATION (FTA) - Another branch of the United States Department of Transportation responsible for mass transit projects throughout the country.

FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS) **-** A document that provides a full description of the proposed project, the existing environment, and analysis of the anticipated beneficial and adverse environmental effects of all reasonable alternatives. (Also see "Draft Environmental Impact Statement.") A FEIS addresses comments submitted regarding a draft environmental impact statement.

FINDING OF NO SIGNIFICANT IMPACT (FONSI) - A statement indicating that a project was found to have no significant impacts on the quality of the human environment and for which a full environmental impact statement will, therefore, not be prepared.

FLEXIBLE FUNDING - Unlike funding that flows only to highways or only to transit by a rigid formula, this is money that can be invested on a range of transportation projects. Examples of flexible funding categories include the STP and CMAQ programs.

FIXED GUIDEWAY - A system of vehicles that can operate only on its own guideway constructed for that purpose. Examples of fixed guideways systems include rapid rail, light rail transit, exclusive right-of-way bus operations, trolley coaches, and ferry boats.

FUNCTIONAL CLASSIFICATION - Is a grouping of roads, streets, and highways in a hierarchy based on the type of highway service they provide. Streets and highways do not operate independently. Instead, they are part of an interconnected network and each one performs service in moving traffic throughout the system. Generally, streets and highways perform two types of service. They provide either traffic mobility or land access. They can be ranked in terms of the proportion of service they perform. The functional classifications are respectively listed in order of traffic service and mobility; freeway, principal arterials, minor arterials, collectors, and local streets.

HIGH FREQUENCY BUS SERVICE - High Frequency Bus is a standard bus transit mode capable of operating in ordinary mixed traffic. High Frequency Bus is characterized by approximately 15 minute headways covering at least the peak commuter period. For the purpose of the 2030 LRP Update, High Frequency Bus does not include special buses, stations, or technologies. Station spacing is varies by demand.

ILLUSTRATIVE PROJECTS - A regionally significant project that has no identified funding that would be included in the 2030 LRP Update if additional resources could be identified or were to become available.

INTELLIGENT TRANSPORTATION SYSTEM (ITS) - The development or application of technology (electronics, communications, or information processing) to improve the efficiency and safety of surface transportation systems. ITS is divided into five categories that reflect the major emphasis of application: (1) Advanced Traffic Management Systems, (2) Advance Traveler Information Systems, (3) Advanced Public Transportation Systems, (4) Automatic Vehicle Control Systems and (5) Commercial Vehicle Operations.

INTERMODAL CENTER - A transportation facility that is specially designed to accommodate several modes of passenger and freight movement including commuter rail, light rail transit, intercity bus, intra-city bus, airport limousine service, cargo container transfers, piggyback trailers, car rental facilities, taxis, private parking, and other transportation services.

INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA) - The past transportation act which changed many of the traditional methods and procedures of transportation planning. This act replaced many of the former federal-aid funding programs and increased the responsibility of the Metropolitan Planning Organization (MPO).

LEVEL OF SERVICE - A measure of highway congestion ranging from free flow to forced flow on a scale of A to F. Facilities are usually designed for levels C or D.

LINKED TRIP - A linked trip is a person's entire trip between an origin and destination, which may involve transferring between vehicles (e.g., bus and rail transit), or multiple stops, such as stopping at a daycare center or store along a commute trip. An unlinked trip is a passenger trip make on a single vehicle, such as a single automobile or bus ride.

LOCAL STREETS AND ROADS -Their primary function is to provide land access. Travel speeds, distances, and volumes are generally low, and through traffic is usually discouraged.

LONG RANGE TRANSPORTATION PLAN (LRTP) - A financially constrained, long range plan, with at least a 20-year time frame, of the anticipated highway and transit needs in a specific area. Transportation needs are based on projected socioeconomic and land use growth within the area. The Wasatch Front Regional Council is responsible for the Long Range Transportation Plan for both the Salt Lake and Ogden/Layton Urbanized Areas. The current plan title is the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030.

MANAGEMENT SYSTEMS - A requirement of ISTEA to address short range needs. All states are required to have management systems in place. Metropolitan Planning Organizations have been

delegated authority to maintain a Congestion Management System (CMS) only in urban areas designated as a Transportation Management Area (TMA). UDOT maintains pavement, bridge, and safety management systems.

METROPOLITAN AREA - This area includes the existing urbanized area plus any contiguous area expected to become urbanized in the 20 year forecast period. The Metropolitan Area also must include all of the non-attainment areas for ozone and carbon monoxide pollutants.

METROPOLITAN PLANNING ORGANIZATION (MPO) - Designated by the Governor under the provisions of the 1973 Federal-Aid Highway Act. This organization shares responsibility with the State for developing long and short range transportation plans and programs. It provides a forum for discussion and consensus on issues which transcend jurisdictional boundaries. The Wasatch Front Regional Council is the MPO for the Salt Lake and Ogden/Layton Urbanized Areas.

MULTIMODAL - Refers to the availability of multiple transportation options, especially within a system or corridor. A multimodal approach to transportation planning focuses on the most efficient way of getting people or goods from place to place, be it by truck, train, bicycle, automobile, airplane, bus boat, foot or even telecommuting with a computer modem.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) - Enacted in 1969, requires that any activity or project receiving federal funding or other federal approvals (including transportation projects) undergo analyses of potential impacts to see how the activity or project might impact the community, the natural environment, and the health and welfare of the citizens. These analyses include social, economic, and environmental (SEE) concerns ranging from community cohesion to threatened and endangered species.

NATIONAL HIGHWAY SYSTEM (NHS) - This approximate 160,000-mile network consists of the 42,500 miles of the Interstate system, plus other key roads and arterials throughout the United States. Designated by Congress in 1995 pursuant to a requirement of the Intermodal Surface Transportation Efficiency Act, the NHS is designed to provide an interconnected system of principal routes to serve major travel destinations and population centers. The NHS is also a funding category in TEA-21.

OPERATING FUNDS - Money used to fund general, day-to-day costs of running transportation systems. For highways, operating costs involve maintaining pavement, filling potholes, paying salaries, and so forth. For transit, operating cost include salaries, insurance, administration, maintenance of vehicles and track, replacement parts, and fuel costs.

OZONE (O_3) - Is a colorless gas associated with smog or haze conditions. Ozone is not a direct emission, but a secondary pollutant formed when precursor emissions, hydrocarbons and nitrogen oxides, react in the presence of sunlight.

PARATRANSIT SERVICES - Generally more flexible and personalized than regular bus route service, paratransit services use a variety of vehicles including large and small buses, vans, cars, and taxis. Paratransit can serve a particular population, such as persons with disabilities.

PARK-AND-RIDE - An arrangement whereby people can drive to a transit hub, transfer station, or terminal, park their automobiles in designated lots and use public transportation or carpool to their destinations.

PARTICULATE MATTER (PM_{10}) - Is any material less than 10 microns in size. Particulate matter can be caused by wind-blown soil, dust from paved and unpaved roads, and emissions from diesel engines. Particulate matter of this size is too small to be filtered by the nose and lungs. $PM_{2.5}$ is even smaller material that measures 2.5 microns in size.

PEAK PERIOD - The time between 6:00 and 9:00 a.m. and between 3:00 and 6:00 p.m. on a weekday, when traffic is usually heavy and dominated by commuters

QUEUE JUMPER - Where a separate set of signals for transit are combined with either a short section of exclusive lane or transit exemptions to turning requirements are made to allow transit to by-pass a queue (line) of automobiles that develops at congested points such as intersections, interchange ramps, or bridge approaches.

REGIONALLY SIGNIFICANT PROJECT - A transportation project or facility which serves regional transportation needs, such as access to or from areas outside of the region, major activity centers, major planned developments, or transportation terminals. Included as regionally significant projects would be all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

RIDESHARING - Car and van pooling intended primarily to serve the commuter work trip. Formalized ridesharing programs are co-sponsored by the Utah Transit Authority.

RIGHT-OF-WAY (ROW) - Land, usually in public ownership, through which a transportation facility passes, including the area for shoulders, parking strips, sidewalks, multipurpose trails, bicycle paths, and other cross section elements. Right-of-way also includes rails and trackbeds for fixed guideway transit facilities.

SIGNAL PRIORITIZATION - Existing traffic signals or a separate set of signals for transit are made to be activated by buses. Detector devices are installed on the bus or embedded in the approach lane to trigger a signal change or extend signal green time for transit vehicles. Activation of the device may be always available to the transit vehicle or may be limited to only late vehicles. In addition to transit use, emergency vehicles may use the same devices in a more aggressive way to decrease their response time.

STATE IMPLEMENTATION PLAN (SIP) - A plan showing how the State will meet air quality standards as required by the 1977 Clean Air Act - Amended. Included are emission inventories and controls for industrial, area, and mobile sources of pollution.

STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM (STIP) - A five-year program of highway and transit projects for the State. It is a compilation of projects utilizing various federal and state funding programs, and includes highway projects on the state, city, and county highway systems, as well as projects in National Parks, National Forests, and Indian Reservations.

SURFACE TRANSPORTATION PROGRAM (STP) - One of the key funding programs in TEA-21. STP monies are "flexible," meaning they can be spent on roads and highways, as well as on pedestrian and bicycles facilities and mass transit.

3-C PLANNING PROCESS (3-C) - Continuing, comprehensive and cooperative (3-C) transportation planning is conducted by Metropolitan Planning Organizations in urbanized areas. The existence of a certified process is a necessary condition for the use of federal transportation funds.

TRAFFIC CONTROL MEASURES (TCM) - Measures which can improve air quality through a reduction in travel or through a reduction in vehicle emission rates by improved traffic flow. Examples include ride sharing programs, transit service, and signal coordination.

TRAFFIC OPERATIONS CENTER - The Utah Department of Transportation's central facility designed to operate and coordinate a variety of TSM and ITS systems, including a network of traffic signals, fiber optics links, traffic sensors, ramp meters, variable message signs, closed-circuit television cameras, and emergency response personnel.

TRANSIT HUBS - Locations where transfer connections between transit modes is facilitated, usually at shopping centers or other high-pedestrian locations.

TRANSIT DEVELOPMENT PROGRAM (TDP) - A short-term (usually five years)plan of transit service and facility improvements to meet the transit goals of the region.

TRANSPORTATION DEMAND MANAGEMENT (TDM) - TDM programs and methods designed to maximize the people-moving capability of the transportation system by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel. To accomplish these types of changes, TDM programs must rely on incentives or disincentives to make these shifts in behavior attractive.

TRANSPORTATION EQUITY ACT for the 21st CENTURY (TEA-21) **-** Federal legislation authorizing highway, highway safety, transit, and other federal surface transportation programs through the year 2003. It continues and expands the programs established by the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. Both acts placed greater emphasis on planning and identified several planning factors that must be addressed.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) - A five-year capital improvements program of highway and transit projects including operational and low cost projects to increase efficiency of the existing transportation network as well as capital intensive alternatives prescribed in the Long Range Transportation Plan.

TRANSPORTATION MANAGEMENT AREA (TMA) - An urbanized area with a population over 200,000 (as determined by the latest decennial census) or other area when TMA designation is requested by the Governor and the MPO (or affected local officials), and officially designated by the administrators of the FHWA and the FTA. The TMA designation applies to the entire metropolitan planning area(s).

TRANSPORTATION SYSTEM MANAGEMENT STRATEGIES (TSM) - Programs and methods to improve the efficiency and effective capacity of the transportation system. Techniques that might be utilized are signalization, ramp metering, HOV ramps and lanes, one-way streets, and improvements to transit.

URBAN AREA - A city or group of cities with population in excess of 5,000. Boundaries are determined by local elected officials, but may not be less than urban area boundaries as defined by the U.S. Bureau of the Census. There are twelve urban areas in Utah.

URBANIZED AREA - A city or group of cities with population in excess of 50,000. Boundaries are determined by local elected officials, but may not be less than urbanized area boundaries as defined by the United States Bureau of the Census. There are currently five urbanized areas in Utah --- Salt Lake, Ogden/Layton, Logan, Provo/Orem, and St. George.

URBAN TRANSPORTATION PLANNING PROCESS (UTPP) - The UTPP includes the methodologies used in the development of the Long Range and Short Range Elements of the Transportation Plan. The process is intended to identify existing and projected transportation problems within an urban area.

UTAH TRANSPORTATION COMMISSION - A seven-member commission whose members are appointed by the Governor with advice and consent of the Senate. Six of the members are selected to represent specific areas of the state, and one member represents the state at large. Duties of the commission are to determine priorities and funding, location and establishment of state highways and airports, hold public meetings and provide for public involvement in transportation matters, make rules on behalf of UDOT, and advise the department on statewide transportation policy.

VEHICLES PER DAY (VPD) - The total number of vehicles including buses and trucks which pass by a specific point during the day.

VEHICLES MILES TRAVELED (VMT) - The amount of vehicle travel on a designated set of roadways multiplied by the total mileage of those roadways.

FINANCIAL PLAN

WASATCH FRONT URBAN AREA
LONG RANGE TRANSPORTATION PLAN
UPDATE

2004 - 2030

Technical Report 44

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I. INTRODUCTION

This Technical Report 44 entitled "The Financial Plan For Wasatch Front Urban Area" documents the projected revenue sources and expenditures needed to support the Wasatch Front Urban Area Long Range Transportation Plan Update, Report 43. In this report, potential revenue sources have been identified and summarized. Estimates of future revenues from various federal, state and local sources have been made. The costs to meet the projected needs for all elements of Salt Lake and Ogden Urbanized Area Long Range Transportation Plans over the next twenty-seven years have also been estimated. Finally, the projected revenues are compared with projected costs and a financial plan developed.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) was the first federal transportation act to require that long range transportation plans developed by Metropolitan Planning Organizations (MPO) include a financial plan to fund recommended highway and transit facility improvements. ISTEA also required that long range plans be fiscally constrained, meaning only those new facilities and recommended improvements which could be funded using existing and projected revenue streams could be included in MPO long range transportation plans. The Transportation Equity Act for the 21st Century (TEA-21), the current federal transportation legislation, also requires that a financial plan be part of the overall long range transportation plan for a region. The purpose of this requirement is to ensure that the recommended improvements included in the long range transportation plan can be implemented and that air quality benefits assumed for the implementation of the plan are realistic.

Federal guidelines on preparing financial plans state: "The financial plan should compare the annual revenue from existing and proposed funding sources that are dedicated to transportation uses, and the annual costs of constructing, maintaining and operating the transportation system over the period of the Long Range Plan. The annual revenue by existing revenue source (at the local, State, and Federal level) dedicated to transportation improvements should be calculated and any shortfalls identified. Proposed new revenues should cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections should be based on the best available data and trends. This requirement does not preclude MPO's and states from also developing unconstrained 'needs' plans."

For the Wasatch Front Urban Area, this requirement means that many of the projects recommended in previous Long Range Transportation Plans can no longer be included in a financially constrained 2030 plan. Long range transportation plans prepared before 1991 were based on need and identified facilities to serve projected transportation demand of the Area in the future. These pre-1991 long range transportation plans did not always identify the means to pay for their recommended facility improvements. At the most, these previous efforts estimated how much additional revenue would be needed and listed some potential sources to meet these needs. However, the long range transportation plans did not include a commitment to actually pursue these funds, and in many cases the additional funds required could not reasonably be expected.

Finally, TEA-21 allows for illustrative highway and transit projects to be included as part of a regional long range transportation plan. These illustrative projects are those which cannot be included in a fiscally constrained long range plan, but which would be included if a viable future funding sources could be identified. The Wasatch Front Urban Area Long Range Transportation Plan includes a number of illustrative projects that are not covered by current funding sources identified in this financial plan. However, prospective regional funding sources will be identified for the financing of these projects before they are included as part of future long range transportation plans.

II. REVENUE SOURCES

Funding sources for transportation highway and transit improvement projects are essential if the recommended projects of the Wasatch Front Urban Area Long Range Transportation Plan are to be built. In the Wasatch Front Region, federal, state, and local governments as well as private developers provide funds to pay for improvements. ISTEA of 1991 combined or renamed many of the former federal-aid programs, such as Federal-Aid Urban and Federal-Aid Secondary. The ISTEA greatly increased the flexibility of federal highway and transit programs. ISTEA also created some new programs, such as the Congestion Mitigation/Air Quality (CMAQ) program and Transportation Enhancements. The following section describes various revenue funding sources and programs and how these revenues may be used. Table II-1 entitled "Transportation Program Funding Sources and Responsibilities" is a summary of potential funding sources for transportation improvements, including federal, state and local programs. Table II-2 entitled "Potential Funding Sources for Transportation Projects" describes the programs, funding mechanisms and eligibility requirements for various transportation projects. Both of these tables are located at the end of this chapter.

FEDERAL REVENUE SOURCES

The current federal highway legislation, the Transportation Equity Act for the 21st Century, continues the programs created by ISTEA, but with increased funding level. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) provide the major source of funds from the federal government for transportation improvements. However, some funds are also available from several other federal agencies. All are discussed below.

Federal Highway Administration

The FHWA administers the highway programs of the federal government. Included are programs for improvements to the Federal-Aid Interstate System, for improvements to other highways in rural and urban areas, and for safety related improvements. TEA-21 made a significant change in the funding to substantially increase the level of funding by approximately 54 percent over ISTEA. It assured a guaranteed level of Federal funds for surface transportation through FY 2003. The annual floor for highway funding is keyed to receipts of the Highway Account of the Highway Trust Fund. Transit funding is guaranteed at a selected fixed amount. All highway user taxes are extended at the same rates when the legislation was enacted. In a major change to Federal Budget rules, highway and transit programs are now guaranteed a minimum level of spending under TEA-21. The amount guaranteed for the national surface transportation program is estimated to be $198 billion over the life of the Act for both highway and transit. The full authorization for the highway and transit programs is $218 billion. A concession to achieving this high spending level is that the Highway Trust Fund no longer receives interest income.

Federal-Aid Interstate Maintenance Program - These funds can be used for resurfacing, restoration, and rehabilitation of the Interstate Highway System. Since the Interstate System is complete in Utah, this program will increase in importance as the emphasis was shifted from construction of the Interstate System to maintaining the System. The Utah Department of Transportation and the State Transportation Commission program these funds. The federal share of these projects is approximately 93 percent.

National Highway System (NHS) - This is a funding category as a result of ISTEA for use in constructing, widening, or rehabilitating highways on the National Highway System. This category of highways includes all interstate and most other major principal arterials. Congress

has approved the national highway system, of approximately 160,000 miles. The federal share for this program is approximately 93 percent. Projects such as commuter parking lots, new interchanges, and transit improvements on National Highway Systems are also eligible to receive NHS funds. The estimated funding level for the NHS in Utah will be approximately $254.8 million for the 6 years of TEA-21. These funds are distributed to states based on a formula, which has been revised to include each State's lane-miles of principal arterials, diesel fuel used on the State's highways, and per capita principal arterial lane-miles. The Act expands and clarifies eligibility of NHS funding for certain types of improvements, such as publicly owned bus terminals, infrastructure-based intelligent transportation system capital improvements, and natural habitat mitigation.

Surface Transportation Program (STP) - This category was created by ISTEA in 1991. It is a combination of the former Federal-Aid Urban (FAU), Hazard Elimination and Safety (HES), and part of the Federal-Aid Primary and Secondary (FAP and FAS) programs. The funds may be spent on any road that is functionally classified as a collector or higher for urban streets or as a major collector or higher for rural areas. The type of projects may range from rehabilitation to new construction. Eligible safety projects include Hazard Elimination, Railroad Crossings, and Railroad Protective Devices. These funds may also be used for transit projects. The federal share for STP projects is 93 percent. The estimated total funding, from TEA-21, for Utah is $389 million over the life of the Act. A state may augment its STP funds by transferring funds from other programs. In addition, portions of the Minimum Guarantee funds are administered as if they were STP funds. Fifty percent of the Surface Transportation Program funds are allocated to urban and rural areas of the state based on population. Thirty percent can be used in any area of the state at the discretion of the State Transportation Commission. Of the remaining 20 percent of the funds, half must be spent on highway safety projects, and half (10 percent of all STP) must be spent on "Transportation Enhancements." There are ten types of Enhancements, which range from historic preservation, bicycle and pedestrian facilities, to water runoff mitigation. State allocations include a special rule for areas with less than 5,000 in population. ISTEA provision requires states to make available obligation to urbanized areas of more than 200,000 in population.

Congestion Management/Air Quality (CMAQ) - This FHWA program gives federal-aid to projects that reduce traffic congestion and improve air quality in non-attainment areas. Examples of CMAQ projects are signal coordination, park and ride lots, ridesharing, bus service expansion, and alternative transportation modes, which include bicycle and pedestrian facilities. The federal share for CMAQ projects is 93 percent. Statewide funding for CMAQ projects over the six years of the Act is approximately $60,300,000.

Bridge Replacement Program - This program provides funds for the replacement of substandard bridges, both on and off federal-aid systems. Bridges must have a span of 20 feet in order to be eligible to receive these funds. The Utah Department of Transportation has evaluated all eligible bridges in the state and given them a rating. All bridges with a rating of less than 50 are eligible to receive funding on a first-come, first-served basis. The UDOT re-inventories bridges about every two years. The State Transportation Commission has established a policy that 65 percent of these funds will be used for bridges on the state system with the remaining 35 percent being used for bridges under local jurisdiction. The federal share for these projects is 80 percent. Statewide funding for Bridge Replacement Programs over the six years of the Act is approximately $126,400,000.

High Priority Projects - This program was created in TEA-21 to fund specific projects identified by Congress. Nationally, 1850 high priority projects have been identified. In Utah, 15

projects have been funded with a total of approximately $82,100,000 over the six years of the Act. The federal share for these projects is 80 percent.

Recreational Trails Program - This program was created in TEA-21 replacing the National Recreational Trails Funding Program of ISTEA of 1991. Funds may be used to maintain and restore trails, develop trailside and trailhead facilities, acquire easements or land for trails, and to construct new trails. Statewide funding for Recreational Trails Program over the six years of the Act is approximately 4,200,000. The federal share for these projects is 80 percent.

Minimum Guarantee - Federal-aid highway funds for individual programs are apportioned by formula using factors relevant to the particular program. After those computations are made, additional funds are distributed to ensure that each State receives an amount based on equity considerations. This provision ensures that each State will have a guaranteed return on its contributions to the Highway Account of the Highway Trust Fund. A certain share of the aggregate funding provides for the following programs: Interstate Maintenance, National Highway System, Bridge, Congestion Mitigation and Air Quality, Surface Transportation Program, Metropolitan Planning, High Priority Projects and other minor programs as well as the Minimum Guarantee itself. The shares are adjusted each year to ensure that each State's share of apportionments for the specified programs is at least 90.5 percent of its percentage share of contributions to the Highway Account based on the latest data available at the time of the apportionment. Over the six years of TEA-21, Utah received approximately $63,300,000.

Federal Transit Administration

Federal funds for transit capital, planning and preventive maintenance are made available through the Federal Transit Administration. A brief description of the transit assistance program follows.

Section 5307 Urbanized Area Formula Program (formerly FTA Section 9 Program) - Established in 1982, by the Surface Transportation Assistance Act, the Urbanized Area Formula Program provided a block grant to local transit agencies to fund capital projects, provide operating assistance, and support planning activities. With the passage of TEA 21, use of the funds for operating assistance was not authorized for urbanized areas with a population over 200,000 people. However, the funds were authorized to be used for preventive maintenance activities.

The formula program funds are distributed annually to the Salt Lake-Ogden Urbanized Areas and calculated with a formula based on population, population density, and transit revenue miles of service. The Federal share for projects under the Urbanized Area Formula Program is typically 80 percent of the net project cost.

Section 5309 Capital Program (formerly FTA Section 3 Program) - This program provides federal discretionary funding, outlined by Congress, for capital improvement projects under the bus, fixed guideway modernization, and new starts categories. Established in 1982, by the Surface Transportation Assistance Act, the Capital Program has been funded by a gasoline tax dedicated to transit. The Federal share for projects assisted under the Capital Program is typically 80 percent of the net project cost. Specifically the three eligible project categories within the Capital Program are bus and bus-related facilities, modernization of fixed guideway systems, and new fixed guideway systems and extensions ("New Starts").

Bus and Bus-related Facilities: The major purchases under this category are buses and other

rolling stock, ancillary equipment, and the construction of bus facilities (i.e., maintenance facilities, garages, storage areas, waiting facilities and terminals, transit malls and centers, transfer facilities, and intermodal facilities). This category also includes bus rehabilitation and leasing, park-and-ride facilities, parking lots associated with transit facilities, and bus passenger shelters.

Modernization of Fixed Guideway Systems: Projects typically funded under fixed guideway modernization are infrastructure improvements to existing rail and other fixed guideway systems. These improvements can include track and right of way rehabilitation, modernization of stations and maintenance facilities, rolling stock purchase and rehabilitation, and signal and power modernization. Modernization of ferry terminals and the transit portion of ferryboats are also eligible costs.

New Fixed Guideway Systems or Extensions (New Starts): Capital projects under this category include preliminary engineering, acquisition of real property (including relocation costs), final design and construction, and initial acquisition of rolling stock for new fixed guideway systems or extensions, including bus rapid transit, light rail, heavy rail, and commuter rail systems.

Section 5310 Elderly and Persons with Disabilities Program (formerly FTA Section 16 Program) - This program provides funding to private non-profit agencies for capital improvements for the provision of transportation services to senior citizens and persons with disabilities. ISTEA also made public agencies eligible to receive these funds. The Utah Department of Transportation has established a committee to review the projects submitted to use these funds. The Federal share for projects under the Elderly and Persons with Disabilities Program is 80 percent of the net project cost.

Other Federal Programs

Other federal agencies provide funds that can be used for transportation improvement under conditions. Two of these are discussed below.

Community Development Block Grants - These funds can be used for a wide variety of activities directed toward neighborhood revitalization, economic development, and improved community facilities and services, including the construction or improvement of streets and highways. However, it must be clearly demonstrated that all projects principally benefit low and moderate-income persons, aid in the prevention or elimination of slums and blight, or meet other urgent community health and safety needs. The Department of Housing and Urban Development is the sponsor of this program. Municipalities with a population of over 50,000 and counties with a population of over 200,000 are entitlement areas and are allocated CDBG funds on an annual basis. Municipalities with a population under 50,000 must compete for state-administered "small cities" Community Development Block Grant funds.

Economic Development Grants - This is another possible source of federal funding for transportation improvement projects, if the construction or rehabilitation activities have a significant and long-lasting favorable impact on an economically distressed area. These funds are available from the Economic Development Administration. EDA funds should be considered if a project is to be constructed in an area of high unemployment or will assist in the creation of long-term employment opportunities. In order to be eligible to make application for EDA funds, entities must be within an Economic Development District and the proposed project must be a part of the District's Overall Economic Development Program.

STATE REVENUE SOURCES

The State of Utah makes funds available from several sources for highway construction. The sources include motor fuel taxes, special fuel taxes, vehicle registration fees, and driver license fees. The 1997 state legislative session changed many of the tax collection schedules for motor fuel. For fiscal year 1998 the gas tax was raised five cents to 24.5 cents per gallon. The special fuel tax and motor vehicle registration were also raised. Seventy-five percent of all these funds are kept by the Utah Department of Transportation for their construction and maintenance and administration program. The remaining 25 percent are made available to counties and cities in the state through the Class B and C Program.

With the approval of an increase in the state gasoline tax and other fees in 1997, the Utah State Legislature created a Centennial Highway Fund (CHF) to fund major highway needs throughout the state. This fund sets aside approximately $1,798,700,000 through 2007 through a combination of revenues from sales tax, motor vehicle registration, and the state's general fund. The Legislature also created a revolving Corridor Preservation Fund (CPF) using a tax on rental cars. This fund can be used by state and local agencies to acquire right-of-way for future transportation corridors. The amount of funds used will need to be paid back to the CPF by other sources when the project goes to construction.

Class B and C Program - Class B and C funds are allocated to each city and county by a formula based on population, road mileage, and the type of roadway. Type B funds are distributed to the counties and C funds to cities. These funds can be used at the discretion of the counties and cities for new construction, maintenance, or preservation.

Safe Sidewalks Program - A Safe Sidewalk Program has also been established by the Utah State Legislature to fund the construction of sidewalks on roads on the state system. The money is distributed on a formula basis partially based on miles of state road per UDOT Region. Each city and county located in the Region submits projects to the district, which then prioritizes them. A statewide representative committee then makes the final selection for each county.

LOCAL REVENUE SOURCES

Local government agencies have a variety of funding sources available to them for transportation improvements. The primary source is from the general fund of the cities and counties. These general funds can be used for construction of new roads or the upgrading of existing ones. Transportation projects, however, must compete with other needs of the city or county for the use of these funds.

Financial sources for municipal and county government transportation improvements include exactions from developers, which are required to construct certain portions of local roads that directly serve their new residential or commercial development, and transportation impact fees. Local governments have several other options for improving their transportation systems. Most of these options involve some kind of bonding arrangement, either through the creation of a redevelopment district, a more traditional special improvement district organized for a specific project benefiting an identifiable group of properties, or through general obligation bonding arrangements for projects felt to be beneficial to the entire entity issuing the bonds. Finally, local funding for transit improvements and service is provided through a 1/2 percent sales tax in Davis and Weber Counties and a 7/16 percent sales tax in Salt Lake County. Revenues from an additional 1/16 percent sales tax in Salt Lake County are designed for improvements on state highways in the County.

Table II-1

TRANSPORTATION PROGRAM FUNDING SOURCES AND RESPONSIBILITIES

FUND CATEGORY	REVENUE SOURCE	PROGRAM MANAGEMENT
FEDERAL HIGHWAY ADMINISTRATION **Surface Transportation Program** (STP) Salt Lake & Ogden Areas **Congestion Mitigation/Air Quality** (CMAQ) Salt Lake & Ogden Areas) **Interstate Maintenance** (IM) **National Highway System** (NHS) **Surface Transportation Program** Urbanized Area Small Urban Non-Urban Any-Area Statewide (STP) Safety Hazard Elimination Railroad Crossings Transportation Enhancements **Bridge On System State** **Bridge Replacement** Off System - Local Off System - Optional **Federal Lands Programs** **High Priority Projects** **Recreational Trails**	**NATIONAL HIGHWAY TRUST FUND**	**WASATCH FRONT REGIONAL COUNCIL** **UTAH DEPARTMENT OF TRANSPORTATION** (See note below)
FEDERAL TRANSIT ADMINISTRATION **(5307)** Block Grant Funds **(5309)** Discretionary Funds **(5310)** Capital Funds for services to elderly and disabled persons	**TRANSIT ACCOUNT OF NATIONAL HIGHWAY TRUST FUND & U.S. GENERAL FUND**	**UTAH TRANSIT AUTHORITY** **UDOT (5310)**
STATE **State Construction** **State General Funds** **State Traffic** **Centennial Highway Funds** **Corridor Preservation Funds**	**STATE HIGHWAY USER RECEIPTS & STATE GENERAL FUND**	**UTAH DEPARTMENT OF TRANSPORTATION**
LOCAL **County (B Funds)** **City (C Funds)** **General Funds** **Transit Sales Tax**	**SALES & PROPERTY TAX, OTHER GENERAL FUND, B & C ROAD FUND**	**CITY / COUNTY** **UTAH TRANSIT AUTHORITY**
PRIVATE **Donations / User Fee**	**PRIVATE**	**PRIVATE**

The Joint Highway Committee makes recommendations to UDOT on the Small Urban, and Local Bridge Replacement Programs. Federal highway and transit funds must be included in the WFRC's Transportation Improvement Program.

Table II-2
POTENTIAL FUNDING SOURCES FOR TRANSPORTATION PROJECTS

Transportation Program	Funding Agency	Description	Requirements For Use
Surface Transportation Program - Urban	FHWA (WFRC)	For transportation facility improvements ranging from rehabilitation of existing facilities to new construction. May also be used for transit capital improvements and ridesharing promotion.	1. May be used on any road not functionally classified as local or rural minor collector in the Metropolitan Area. 2. Must be consistent with Long Range and Short Range Elements of Transportation Plan, except for minor projects. 3. Initiation of projects by local officials through MPO. 4. Environmental impact evaluation.
Surface Transportation Program – Rural	FHWA	Same as above, only for use outside the Urban Area Boundary.	1. Can be used for projects within the Metropolitan Area but outside the designated Urbanized Area.
Surface Transportation Program - Transportation Enhancements	FHWA	A mandatory ten percent of all STP funds to be used for non-traditional uses, including pedestrian and bicycle facilities and landscaping.	1. Enhancement projects will be selected by the State Transportation Commission and by a UDOT appointed committee. The committee will include UDOT staff and persons from around the state interested in non-traditional transportation projects.
Surface Transportation Program - Highway Safety	FHWA	For safety improvements to roads, rail-highway crossings including crossing devices, and hazard elimination activities, respectively.	1. Funds set aside for safety may be used on any public road for any of the activities of (rail-highway crossings and hazard elimination activities). 2. TEA-21 amended ISTEA to allow funding of safety improvements at public transportation facilities and public pedestrian and bicycle pathways and trails.
Congestion Mitigation/Air Quality (CMAQ)	FHWA (WFRC)	For transportation-related projects that significantly reduce emissions in non-attainment areas.	1. Projects must contribute to the attainment of air quality standards (reducing emissions) in the region. 2. Projects that increase capacity for single occupancy vehicles are not allowed. 3. Projects in the State Implementation Plan for clean air attainment should receive priority.
Interstate Maintenance Program (IM)	FHWA	For the resurfacing, restoration, and rehabilitation of the Federal-Aid Interstate System.	1. Limited to Federal-Aid Interstate System. 2. Environmental impact evaluation. 3. May not be used to add capacity or construct new interchanges.
National Highway System (NHS)	FHWA	To provide an interconnected system of principal arterial routes that serve major population centers, airports, public transportation facilities, and other intermodal transportation facilities. May also be used for transit-oriented projects.	1. May be used on construction of, and operational improvements for, a Federal-aid highway not on the NHS and construction of a transit project eligible for assistance under the FTA if, (a) such project is in the same corridor and in proximity to, a fully access controlled NHS highway (b) improvements will improve the level of service on the fully access controlled highway and improve regional travel, (c) improvements are more cost-effective than work on the NHS highway would be to provide the same benefits.
Bridge Replacement Program	FHWA	For replacement of substandard bridges.	1. Can be used for bridges on all streets, both on and off Federal-Aid Systems. 2. Bridges must have a 20-foot span and a rating of less than 50 using bridge evaluation procedures.

POTENTIAL FUNDING SOURCES FOR TRANSPORTATION PROJECTS (Continued)

Transportation Program	Funding Agency	Description	Requirements For Use
Minimum Guarantee	FHWA	For projects eligible for all other federal highway programs.	1. Ensures that each State receives a specific share of funding based on its federal gas tax receipts
High Priority Projects (HPP)	FHWA	Specific projects identified by Congress. Nationally, there are 1,850 with 15 in Utah. The projects have been identified and will be funded over the six years of TEA-21.	1. Funds can only be used for the particular project assigned. 2. Funds are allocated to the States by project in accordance with the following schedule, 11% in FY 1998, 15% in FY 1999, 18% in each of FYs 2000-2001, and 19% in each of FYs 2002-2003. 3. Eligible activities for funds include (i.e., studies, preliminary engineering, construction, etc.) **Projects identified for HPP funds will remain eligible for the funds beyond 2003 unless funds are re-authorized by Congress.
Recreational Trails Program	FHWA	To maintain and restore trails, develop trailside and trailhead facilities, acquire easements or land for trails, and to construct new trails.	1. May be used to provide and maintain recreational trails for motorized and non-motorized recreational tail uses. 2. May be used to improve or construct trailside and trailhead facilities, including provisions to facilitate access for people with disabilities.
Section 5309 (Formerly Section 3)	FTA	Discretionary grant funds for bus or rail capital improvements to implement or improve public transit system.	1. Must be consistent with long range and short range transportation plan, goals, and objectives. 2. Environmental impact evaluation. 3. Restricted to capital improvements (purchase of equipment, construction of maintenance facilities, etc.)
Section 5307 (Formerly Section 9)	FTA	Formula grants for public transit capital improvements, preventive maintenance, or planning assistance.	1. Urbanized area allocation based on population, population density, and transit revenue miles. 2. May be used for preventive maintenance, capital improvements or planning assistance. 3. Must be part of an approved Transit Development Program. 4. Environmental impact evaluation.
Section 5310 (Formerly Section 16(b)2 Program)	FTA	Grants for capital expenditures by private non-profit and public agencies providing service to elderly persons and persons with disabilities.	1. Must be used for capital expenditures, including purchase of vans or buses. 2. Must be recommended by UDOT review committee. 3. Recipients must coordinate service with other service providers in area.
Safe Sidewalks Program	State	For sidewalk construction on roads on the state system.	1. Must only be used on state roads. 2. Funds allocated by formula to each county, prioritized by the UDOT District, and selected by a statewide committee.
State Motor Vehicle, Motor Fuel, Other Highway User Taxes and Fees	State	For construction, improvement, or maintenance of state highway system.	1. May be used throughout the State. 2. Projects are selected at the discretion of the State. 3. Must be approved by the Utah State Transportation Commission.

POTENTIAL FUNDING SOURCES FOR TRANSPORTATION PROJECTS (Continued)

Transportation Program	Funding Agency	Description	Requirements For Use
Economic Development Grants	EDA	For public facilities such as access roads to industrial parks, or to other economically significant locations.	1. Must fulfill a pressing need of the area and tend to improve opportunity for successfully establishing or expanding industrial or commercial plants or facilities. 2. Must assist in creation of long term employment opportunities. 3. Must benefit long term unemployed, members of low-income families or further the objectives of Economic Opportunity Act of 1964.
Community Development Block Grant (Entitlement and Discretionary Grants)	HUD	For acquisition, construction of certain public works facilities and improvements, parking facilities, pedestrian malls and walkways, curb, gutter, sidewalks, signs, lighting, and other transportation appurtenance.	1. Entitlement grants allocated to cities with populations in excess of 50,000, or counties with population in excess of 200,000 or central cities in SMSA's with populations of fewer than 50,000. 2. Discretionary grants (small cities) allocated to all counties or units of general local government, except metropolitan cities and urban counties. 3. Projects must be shown to principally benefit persons of low and moderate income, meet an urgent public health or safety need, and eliminate slum or blight. 4. Highway expenditures have to be in support of broader community development programs.
State General Fund	State	For construction, improvement, or maintenance of state highway system. Also used to pay for bonding.	1. May be used throughout the State. 2. Projects are selected at the discretion of the State. 3. Must be approved by the Utah State Transportation Commission. 4. State Legislature must appropriate each year.
Corridor Preservation	State	For acquisition of right-of-way to preserve corridors for future transportation projects.	1. May be used throughout the State. 2. May be used for state and local highway, transit, or other transportation projects 3. Projects are selected by the Utah State Transportation Commission.
Class B&C Program	State	For road improvement projects including construction, improvement or maintenance of city or county streets and highways.	1. Allocation by formula to cities and counties throughout the State. 2. Projects are selected at the discretion of the city or county. 3. Monies used primarily for street maintenance. 4. Thirty percent of the funds must be used for construction projects or maintenance projects over $40,000.
General Fund	Towns, Cities and Counties	For transportation facility improvements ranging from maintenance to new construction.	1. Major portion of fund is accumulated through property taxes. 2. Projects are selected at the discretion of the city or county. 3. Funds are generally allocated in conjunction with the capital improvements program needs of the municipality.
Special Improvement Districts	Cities and Counties	For permanently improving the roadways, curb, gutter, and sidewalks on any city or county road.	1. Must be within a special improvement district as set up by the County Commission or City Council. 2. The cost of road improvements in any special road district except the intersection of roads within such districts shall be assessed upon the lots and lands abutting upon the roads.
Transit Sales Tax	UTA	For support of public transit service in Salt Lake, Davis, Weber, and Tooele Counties.	1. Can be used to pay for operating and capital costs of transit service. 2. One half percent sales tax has been approved by voters in Salt Lake, Davis and Weber Counties. 3. State law authorization is currently limited to one half percent.

POTENTIAL FUNDING SOURCES FOR TRANSPORTATION PROJECTS (Continued)

Transportation Program	Funding Agency	Description	Requirements For Use
Tax Increment	Towns, Cities and Counties	For public facility improvements within or adjacent to redevelopment project areas.	1. Removal of slum and blight with redevelopment project area. 2. Must be for public improvements that support the redevelopment effort. 3. Establishment of redevelopment agency. 4. Identification of a redevelopment project area and a specific redevelopment.
General Obligation Bonds	Counties, Cities, Towns, and Improvement Districts	For capital improvements to implement or improve transportation facilities or other public facilities.	1. Voter approval is required. 2. The taxing power of the jurisdiction is pledged to pay interest upon and retire the debt. 3. Limits on the amount of bonded indebtedness a jurisdiction may incur are established by state constitution or statute. Counties are limited to two percent of the reasonable fair cash value of the taxable property within the county and cities are limited to four percent.
Revenue Bonds	Counties, Cities, Towns, and Improvement Districts	For capital improvement projects which generally produce revenues.	1. Revenue bonds may be issued where the revenue generated from the improvement or other specifically pledged revenues are used to finance the bonds.
Demonstration	FHWA	For studies, preliminary engineering, construction, etc. for projects designated by Congress.	1. Information relative to eligible activities is specified in the project description in the section of the law authorizing it.
Developer Dedications	Private	For transportation improvements including dedication of right-of-way and new roads.	1. Municipal planning commission must review new subdivision plats and conditional plan.

PRIVATE SOURCES

Private interests often provide sources of funding for transportation improvements. Developers construct the local streets with subdivisions and often dedicate right-of-way for and participate in the construction of collector and arterial streets adjacent to their developments. Developers should also be considered as a possible source of funds for projects needed because of the impacts of the development, such as the need for traffic signals or arterial street widening.

Private sources also need to be considered for transit improvements that will provide benefits to them. For example, business or developers may be willing to support either capital expenses or operating costs for transit service which provide them with special benefits, such as a reduced need for parking or increased accessibility to their development.

III. PROJECTED REVENUES

The Wasatch Front Regional Council, in cooperation with the Utah Department of Transportation (UDOT) and the Utah Transit Authority (UTA), developed estimates of available revenues based on projected sources that will be available for transportation improvements through the year 2030. Included in these revenue estimates are traditional federal, state and local sources for highway and transit improvements, along with possible innovative sources. Assumptions were made concerning revenue growth and new or increased sources of funds. The projections and assumptions used are discussed in the balance of this section.

STATEWIDE HIGHWAY REVENUE

A combination of federal, state, and other government revenues will be available for highway improvements in the Wasatch Front Urban Area for the next several years. WFRC, with input from the Utah Department of Transportation's Statewide Planning Division, projected revenue estimates based on reasonable assumptions. The type of funding sources and the assumptions used in UDOT's revenue projections through the year 2030 are discussed below. Table III-1, entitled "Projected Statewide Highway Revenue 2004 - 2030", summarizes all available federal, state, and other government revenue amounts through 2030.

Table III-1

PROJECTED STATEWIDE HIGHWAY REVENUE
2004 - 2030

REVENUE SOURCE	PROJECTED STATEWIDE HIGHWAY REVENUES			
	2004 - 2012	2013 - 2022	2023 - 2030	TOTAL 2002 - 2030
Federal Revenue	1,398,000,000	2,076,000,000	1,983,000,000	5,457,000,000
State Revenue	4,276,000,000	8,460,000,000	10,854,000,000	23,590,000,000
Centennial Fund - Bonds & Other Revenue	72,000,000	808,000,000	984,000,000	1,864,000,000
Transfers Appropriated to Other State Agencies	(1,604,000,000)	(2,697,000,000)	(3,133,000,000)	(7,434,000,000)
Total Highway Funds Available	4,142,000,000	8,647,000,000	10,688,000,000	23,477,000,000

Federal Revenue: ISTEA established several federal programs for the allocation of funding for highway improvements, which are administered by the Utah Department of Transportation and the State Transportation Commission. TEA-21 continued these programs at slightly higher funding levels. These programs include Interstate Maintenance, National Highway System, Any Area Surface Transportation Program, STP Safety and Enhancement Programs, and Bridge Replacement Programs. For the purpose of projecting future revenues, TEA-21 authorized amounts were assumed to be available for these programs through 2003. A modest growth of two percent per year for each program was then assumed for the period between 2004 and 2030. Approximately $5,457,000,000 of total revenue was projected for statewide federal funds between 2004 and 2030.

State Revenue: State of Utah revenues for transportation are primarily generated through highway user fees. In addition, the Legislature has programmed a portion of the state's general fund to

support Utah Department of Transportation projects. These include motor fuel taxes, special fuel taxes, motor vehicle registration, licensing, driver's license fees, a tax on rental cars (specifically earmarked for transportation corridor preservation), and sales taxes. Future projections of state highway revenues were made by UDOT assuming a historic, yearly growth rate.

1/16 Cent Sales Tax - The Utah State Legislature has approved a 1/16 percent sales tax increase per year would go toward the Class B and C funding, park access and transportation corridor preservation. The Legislature capped this revenue for state highway use from the sales tax at $18,743,000 per year in House Bill 6004.

Motor Fuel Tax - The motor and special fuel tax assumed a 3 percent increase per year in the number of gallons sold, along with a $.05 increase per gallon every six years, or in 2006, 2012, 2018, 2024 and 2030. This will result in a total per gallon tax increase of $0.25 by 2030.

Vehicle Control Fees - Personal property tax for passenger cars and light trucks is a uniform fee based on the age of the vehicle. The fee is applicable to passenger cars, light trucks (including sport utility vehicles) and vans.

Motor Vehicle Registration - Motor vehicle registration revenue, both non-committed and that earmarked for the Centennial Highway Fund (CHF), and drivers license and other taxes and fees are assumed to grow at 3.0 percent per year.

Proportional Registration - An owner or operator of a Utah based fleet of commercial vehicles operating in two or more jurisdictions may apply for an apportioned registration. This registration allows commercial vehicles to comply with registration requirements of more than one jurisdiction and to pay registration fees based on the percentage of operation in those jurisdictions. The prorated percentage for each requested jurisdiction is determined as a fraction, the numerator of which is an amount equal to fleet mileage traveled in that jurisdiction and the denominator is total miles operated by the fleet in all jurisdictions. The total bill is determined by adding the amounts for each requested jurisdiction.

Temporary Permits - The fee is $2.50 for motor vehicles or trailers. The permit allows use of the highways for a time not to exceed 96 hours. The permit is used to move an unregistered vehicle out of the state of Utah.

Special Transportation Permits - Permit fees collected by the Ports of Entry for overweight and oversize loads on single or combination tractor/trailer units.

Highway Use Tax - Collected by the State Tax Commission for all out of state vehicles through the registration process in lieu of county property tax normally collected with Utah State Vehicle Registration.

Safety Inspections & Miscellaneous Fees - Safety inspection fees collected in conjunction with regular vehicle registrations fees. Other miscellaneous violation fines and fees collected by the Ports of Entry for overweight/oversize trucks & trailers traveling without permits.

Centennial Fund - Bonds & Other Revenue: The Centennial Highway Fund (CHF) was established in 1997 by the Utah State Legislature and greatly increased the amount of state revenues assigned to the Utah Department of Transportation.

Dedicated Sales Tax - The Utah State Legislature has approved a 1/64 percent sales tax to fund the CHF account. Revenues from the sales tax are projected to increase by 3.0 percent per year after 2007.

Dedicated Gas Tax - The last fuel tax was increased in 1997, at $.05 per gallon, and goes directly into the CHF account.

Dedicated Registration Fees –In 1997, the Legislature increased the vehicle registration fee by $10. This $10 registration goes directly into the CHF account.

State General Fund - Finally, the CHF program assumes a significant increase in general fund revenues for transportation through 2007. The CHF program initially assumed general fund revenues up to $145,000,000 per year. The Legislature has recently reduced this level to $60,000,000 per year due to budget constraints. The 2030 LRP Update assumes approximately $60,000,000 per year through 2007, but expects that the economy and budget situation will improve to allow the Legislation to provide $100,000,000 per year afterwards (Appendix A is a listing of all transportation projects funded with the Centennial Highway Fund.)

Transfers Appropriated to Other State Agencies - Not all of the highway user revenues are available to UDOT. In the past, approximately 8 percent of these funds have been diverted to other agencies, such as Highway Patrol, Driver's License Division, and the Utah State Tax Commission. Of the remaining amount, 25 percent is transferred to cities and counties through Class B and C funds. UDOT estimated that future amount of diversions to other agencies. The total amount of transfers and diversions from 2004 through 2030 is approximately $7,434,000,000.

REGIONAL HIGHWAY REVENUE

The Wasatch Front Regional Council, in cooperation with the Utah State Department of Transportation and the Utah State Transportation Commission, is responsible for programming a portion of the National Highway Trust Fund in the Salt Lake and Ogden Urbanized Areas. In consultation with UDOT and the Utah Transit Authority, the WFRC develops the Surface Transportation Program and the Congestion Mitigation/Air Quality Program for both the Salt Lake and Ogden Urbanized Areas. For projecting future revenues, TEA-21 authorized amounts were assumed to be available for these programs through 2003. These National Highway Trust Funds can be used for projects on the state highway system, as well as on local streets. STP and CMAQ funded projects have local sponsors that are required to commit a portion of the projects total cost. A total revenue amount of approximately $514,000,000 was projected for WFRC programmed Highway Trust Funds between 2004 and 2030.

A 1/4 percent transit sales tax increase was passed in November 2000. As part of this sales tax, Salt Lake County will receive 1/16 percent sales tax to go towards state roads. Wasatch Front Regional Council estimates this 1/16 percent sales tax will generate approximately $752,000,000 over the next 27 years. Table III-2, entitled "Projected Regional Highway Revenue 2004 - 2030", summarizes STP, CMAQ and Salt Lake County 1/16 percent sales tax revenue amounts for 2004 through the year 2030.

Table III-2

PROJECTED REGIONAL HIGHWAY REVENUE
2004 - 2030

REVENUE SOURCE	PROJECTED REGIONAL HIGHWAY REVENUES			
	2004 - 2012	2013 - 2022	2023 - 2030	TOTAL 2002 - 2030
Surface Transportation Program	130,000,000	145,000,000	116,000,000	391,000,000
Congestion Mitigation / Air Quality Program	41,000,000	46,000,000	37,000,000	124,000,000
Salt Lake County 1/16 percent sales tax	136,000,000	263,000,000	353,000,000	752,000,000
Total Regional Highway Revenue	307,000,000	454,000,000	506,000,000	1,267,000,000

LOCAL HIGHWAY REVENUE

City and county governments have four main sources of revenues for needed local transportation projects. These sources are federal funds from the Salt Lake and Ogden Surface Transportation Programs and the Congestion Mitigation/Air Quality Programs, Class B and C Funds from state highway user revenues, local general funds and some limited innovative financing. Each of these revenue sources is discussed below, including the projection assumptions used to increase these amounts through the year 2030. Table III-3, entitled "Projected Local Highway Revenue 2004 - 2030", summarizes projected available local city and county funding for highway improvements between 2004 and 2030.

Table III-3

PROJECTED LOCAL HIGHWAY REVENUE
2004 - 2030

REVENUE SOURCE	PROJECTED LOCAL HIGHWAY REVENUES			
	2004 - 2012	2013 - 2022	2023 - 2030	TOTAL 2004 - 2030
Class B and C Program Funds	541,000,000	950,000,000	1,142,000,000	2,633,000,000
Local General Funds	861,000,000	1,268,000,000	1,322,000,000	3,451,000,000
Innovative Funding Sources	84,000,000	94,000,000	75,000,000	253,000,000
Total Local Highway Revenue	1,486,000,000	2,312,000,000	2,539,000,000	6,337,000,000

Class B and C Program Funds: The Class B (for counties) and C (for cities) roadway funds are allocated from the highway user fees revenues on a ratio of population and road miles per various counties and cities throughout the state. Based on the current allocation formula, the Salt Lake and Ogden Urbanized Areas receive 41.25 percent of the Class B and C funds available for the entire State of Utah. This percentage was maintained for the future projections of funds through 2030 that generates approximately $2,633,000,000.

Local General Funds: Both cities and counties program a significant amount of local general funds for highway maintenance and improvement. Current and past general fund spending on highways by counties and cities was examined to project future revenues. City and county governments spent approximately $77,500,000 in 2001 for local street and highway improvements, for a total expenditure of approximately $3,451,000,000 of their general funds between 2004 and 2030 on local highways. These expenditures are projected to grow by 3.0 percent a year through 2030.

Innovative Funding Sources: Local governments will need to consider several innovative highways funding programs in the future. Many already levy transportation impact fees on new development. In addition, developers are a source for funding for major projects, which directly benefit their development. These and other innovative sources will provide funding over the next 27 years for local highway projects. The Long Range Plan Update assumes $9,375,000 per year period starting in 2004 for a total of $253,000,000 from 2004 through 2030. Tables III-4 and III-5 below provides a summary of all highway revenues.

Table III-4

SUMMARY OF PROJECTED
STATEWIDE HIGHWAY REVENUE
2004 – 2030

SOURCE	AMOUNT
Projected Statewide Revenue	
Federal Revenue	
Highway Trust Funds	5,457,000,000
State Revenue	
Highway User Funds (less diversions)	23,590,000,000
Centennial Fund – Bonds & Other Revenue	1,864,000,000
Transfers Appropriated to Other State Agencies	(7,434,000,000)
Total Statewide Revenue Available	**23,477,000,000**

Table III-5

SUMMARY OF PROJECTED
REGIONAL AND LOCAL HIGHWAY REVENUE
2004 – 2030

SOURCE	AMOUNT
Projected Regional Revenue	
Surface Transportation Program	391,000,000
Congestion Mitigation / Air Quality	123,000,000
Salt Lake County 1/16 percent sales tax	752,000,000
Total WFRC Programmed Revenue	**1,266,000,000**
Projected Local Highway Revenue	
Class B and C Program Funds	2,633,000,000
Local General Funds	3,451,000,000
Innovative Funding Sources	253,000,000
Total Local Highway Revenue	**6,337,000,000**

Summary

The projected revenue sources and expenditures needed to support the Wasatch Front Urban Area Long Range Transportation Plan Update include federal, state, and local funding sources. These varied sources combine to provide policy officials a total revenue amount to allocate to selected highway improvement projects. The Long Range Transportation Plan Update for the Wasatch Front Urban Area is financially constrained, containing only those highway improvement projects that can be constructed using available and projected revenue between 2004 and 2030. Refer to Chapter V "Financial Plan," for the Wasatch Front Region's portion of all the available state funding for new capacity projects over the next 27 years. The above Tables III-4 and III-5 summarize the projected statewide, regional, and local highway revenues for 2004 through 2030.

TRANSIT REVENUE

Revenues for transit service and improvements are available from several sources including federal funds, a local sales tax, fares, and others. Federal funds for transit capital and planning assistance are made available through the Federal Transit Administration (FTA). These funding programs are financed through the federal gasoline tax as well as from general fund monies. The Utah Transit Authority (UTA) is the primary recipient of these funds that are used to make system improvements, introduce new transit technology, increase service, and purchase new equipment.

Revenues for transit improvements were projected using the voter approved ½ percent transit sales tax in Weber and Davis Counties and 7/16 percent in Salt Lake County and an additional ½ percent anticipated in implementation in 2007. In addition, federal formula grant funds available for transit were assumed to grow by 4.2 percent a year. Also, it was assumed that federal funding for major transit improvements would be available. Federal funds for major transit improvements were assumed to pay 52 percent of the cost for these major improvements and 39 percent of all capital costs. Finally, fare revenue was projected to cover 20 percent of bus operating costs, just under 5

percent of paratransit operating costs, and 40 percent of the north/south light-rail and regional commuter rail operating costs. Additionally, fare revenues are projected to cover 30 percent of enhanced bus, bus rapid transit, and other light-rail line operating costs.

Federal Transit Funds

Federal funds for transit capital and planning assistance are made available through the Federal Transit Administration. These funding programs are financed through the federal gasoline tax currently going to the Mass Transit Account of the Highway Trust Fund as well as from general fund reserves. These are discussed below.

Section 5307 Formula Grants: This program provides a block grant to local transit agencies for capital improvements. These funds can also be used to support preventive maintenance and planning activities. Funding is distributed annually to the Wasatch Front Urban Area by a formula based on population, population density, and transit revenue miles of service. Fiscal Year 2000 Section 5307 grants were $22 million for the Ogden-Layton and Salt Lake City Urbanized Areas. WFRC staff assumed that this annual amount would grow by 4.2 percent each year in order to keep up with the inflation of operating costs. A total $1,109,000,000 is projected to be available for Section 5307 between 2004 to 2030 for Wasatch Front Urban Area.

Section 5309 Discretionary Bus Grants: This program provides discretionary funding for capital improvement projects such as the purchase of buses, the construction of park and ride lots, or the construction of operating and maintenance facilities. FTA allocates these funds throughout the country on the basis of need. The federal share of these projects is up to 80 percent but actual share typically is much lower. Because of their discretionary nature, Section 5309 funding for area transit projects varies from year to year. For this Long Range Plan Update analysis, the WFRC assumed that UTA would receive the amount they received in 2003 (3.9 million), with a 3.0 percent annual increase to adjust for inflation. The projected total for this discretionary grant is $165,500,000 through the year 2030, which is the equivalent of 30% of the region's total bus capital costs.

Section 5309 New Starts Grants: FTA also has a separate Section 5309 Program for new projects over 50 million dollars. The federal share for these projects generally ranges from 50 to 80 percent. The WFRC staff assumed that UTA would receive an inflation adjusted revenue stream of 50.5 million per year. Over the life of the Long Range Plan Update this federal income would amount to about 46 percent of the total capital costs of Commuter Rail, light rail, bus rapid transit, and enhanced bus. A total of $2,243,000,000 is projected for this grant program.

Other Federal Grants: FTA also has a separate Section 5309 Program for rail modernization which each rail project becomes eligible for after seven years in service. A total of $50,500,000 was assumed for this program. Additionally, federal grants for Congestion Management/Air Quality were assumed to be $206,000,000 respectively.

Local Sales Tax Revenue

A portion of local sales tax revenues is used to support transit services. In the past 24 years, taxable sales have grown at an average rate of about 6.5 percent per year. Beginning in 2001, this sales tax levy was raised to ½ percent from 1/4 percent in Weber, Davis, and Salt Lake Counties. In Weber and Davis Counties this amount is fully dedicated to Utah Transit Authority. In Salt Lake County 7/16 of a percent is dedicated to UTA and the remaining 1/16 percent is to be used for projects on the state highway system in the County.

Since this referendum and the dramatic success of first the Sandy Line and then the University Line, public, business, and policy maker pressure has increased for the region to take more serious strides in building a robust transit system in the region. Community leaders are embracing transit for their communities and have passed resolutions in favor of an additional tax increase to support transit. In approving the Long Range Transportation Plan in December 2001, the Regional Council asked the WFRC staff to work with local officials to identify additional transit opportunities and potential funding sources. The Regional Council formed a blue ribbon committee, the Transit 2030 Committee, to make recommendations to make the transit portions of the transit portions of the Plan Update more robust.

The Transit 2030 Committee consisted of representatives of both the public and private sectors, including local and state officials, Chambers of Commerce, the Utah Manufacturers Association and other business interests, Envision Utah, and Utahns for Better Transportation.

The Transit 2030 Committee, held workshops for local officials to identify the transit needs for their communities in 2002. The Committee then evaluated the suggestions and recommended major transit improvements that should be pursued in the next 27 years. The Committee also identified the need to implement many of the projects on the Long Range Plan Update sooner than on the Plan adopted in 2001.

The Committee also reviewed a wide range of potential funding sources to pay for there improvements. Based on their analysis of the level of local support in other cities around the county, the support expressed by local officials in the region, and the results of public opinion surveys concerning the general public's support for more transit, the Transit 2030 Committee recommended that the region pursue an increase in local support for transit equivalent to a ½ percent sales tax through a referendum in November 2006.

Trans Com and the Regional Council adopted the Transit 2030 Committee's recommendation as a reasonable estimate of future local support for transit at their August 2003 meetings. Therefore, the Long Range Plan Update assumes that the voters will pass the equivalent of an additional ½ cent sales tax devoted to transit in November of 2006 and that the additional revenue will be available for improvements beginning in July of 2007. The Plan assumes that the rate of taxable sales will pick up again growing at rate of 5.5 percent in 2005 and maintain that growth rate through 2030. The annual sales tax receipts discussed above amounts to $96,300,000 in FY 2004 and $251,900,000 in 2008. Projected total sales tax revenue for transit improvements equals $11,592,400,000.

This 5.5 percent growth rate in sales tax is conservative as compared to both the average growth in the past 24 years and as compared to the 6 percent growth rate predicted for the sales tax income to highway projects. However, given the recent downturn in the economy and transit's heavy reliance upon sales tax in its revenue stream, we feel that a 5.5 percent growth rate is appropriate for transit revenues. If the region were to realize a sales tax growth rate higher than 5.5 percent, we would feel even more comfortable with the plan as envisioned because it would result in less debt and a quicker emergence from debt than what is currently projected.

User Fare Revenue

The Utah Transit Authority receives additional revenue from the daily operation of its bus and light rail system through user fares. UTA's Strategic Plan states that it is the goal of the UTA to obtain 20 percent of its bus operating costs from patron fares. The WFRC assumed that UTA would receive fare revenue to cover approximately 20 percent of its bus operating costs and just under 5 percent of its paratransit operating costs. Light rail and commuter rail systems generally cover a greater share of their operating costs than bus operations. The WFRC assumes that fares would generate revenues

equivalent to approximately 30 percent of light-rail spur, bus rapid transit, and enhanced bus operating costs and 40 percent of north/south TRAX and regional commuter rail operating costs. User fare revenue projection for the next 27 years equals approximately $2,482,600,000.

Other Revenue

The Utah Transit Authority receives revenues from other sources, mainly bank account interest, bus advertising, federal planning funds, and joint development. UTA currently receives $7,400,000 a year from these sources of revenue and is anticipated to receive another $75,000 beginning in 2004 from joint development. Approximately 80 percent is estimated to be derived from the WFRC area. The Long Range Financial Plan Update assumes that UTA will continue to receive these revenues and will receive 5.5 percent interest (1.3 percent net of inflation) on its yearly balance. These revenues are anticipated to result in total receipts of $873,000,000 between 2004 and 2030. Table VIII-2 entitled "Projected Transit Revenues 2004 - 2030 summarizes the various federal, local sales tax, fares, and other revenues that will fund the 2030 Long Range Transportation Plan Update's recommended transit improvement for the next 27 years.

Table III-6

PROJECTED TRANSIT REVENUES
2004 – 2030

SOURCE	AMOUNT
Federal Revenues	
Section 5307 Formula Grants	$1,109,000,000
Section 5309 Discretionary Bus Grants	$165,000,000
Section 5309 New Start Grants	$2,243,000,000
Other Federal Grants	$257,000,000
Local Sale Tax Revenue	$11,592,000,000
User Fare Revenue	$2,243,000,000
Other Revenue	$603,000,000
Total Transit Revenue	**$18,453,000,000**

FLEXIBLE FUNDING

While the funds discussed above have been identified with either highways or transit, there is some flexibility in the use of many of these funds. Most of the federal funds can be used for either highways or transit under certain conditions. Interstate Maintenance, National Highway System, Surface Transportation Program, and Congestion Mitigation/Air Quality funds can all be used for transit capital projects. FTA Section 5307 funds can be used for highway improvements if UTA has met all Americans with Disabilities Act requirements.

State highway user revenues, including Class B and C funds, must be used for highway improvements. However, eligible uses would include construction of bus turnouts along arterial streets and construction of joint use park-and-ride lots that can also serve transit riders. State and local general fund revenues that are currently dedicated to highway improvements could possibly be used to support transit's capital or operating expenses, with approval of local governing bodies. The local sales tax for transit is restricted to transit uses.

This Long Range Transportation Financial Plan Update does not anticipate a significant transfer of funds between highways and transit, since the projected funds for each will not meet all the future needs. However, CMAQ funds have been used in the past to purchase light rail vehicles, buses, and vans for UTA and are programmed to be used to construct several park-and-ride lots. The planning process will continue to consider the need for similar transfers in the future.

IV. PROJECTED COSTS

The costs for making the needed improvements for both highways and transit as identified by the Wasatch Front Urban Area Long Range Transportation Plan Update were analyzed. The costs to meet the projected needs of the Long Range Plan Update through the year 2030 were estimated. These costs include those required to meet the needs identified in the Long Range Transportation Plan Update as well as costs estimates for general administration and the operation and maintenance of the existing transportation system. (Appendix B and Appendix C show details on the estimated costs for the Wasatch Front Urban Area Long Range Transportation Plan Update recommended highway and transit projects through 2030.)

UDOT estimated their overall highway costs for: Operating Costs, Contractual Maintenance, Signal Spot Improvements, Lighting, and Barrier, Bridge Preventive Maintenance, Bridge Rehabilitation / Replacement, Highway Rehabilitation / Replacement, Hazard Elimination, Safety, and Enhancements, and Region / Department Contingencies. Transit costs estimates include expenditures for bus and miscellaneous bus related operations and improvements and for light rail, bus rapid transit, enhanced bus, commuter rail alignment construction and operations. All administration costs are included in the operations cost.

STATEWIDE HIGHWAY OPERATING AND PRESERVATION COST ESTIMATES

The Utah Department of Transportation, working in close cooperation with the WFRC, estimated the various statewide highway operating costs and preservation costs over the next 27 years. The total costs estimated for the various types of estimates are discussed below. These assumptions are based on UDOT's experience and a survey of UDOT concerning their expenses. The Utah Department of Transportation estimated statewide cost totals for each of six categories. Growth and inflation assumptions were applied to these cost totals from 2004 through 2030. (Appendix G contains details on the estimated costs used for projecting UDOT operations, Contractual Maintenance, Signal Spot Improvements, Lighting, and Barrier, Bridge Preventive Maintenance, Bridge Rehabilitation / Replacement, Highway Rehabilitation / Replacement, Hazard Elimination, Safety, and Enhancements, and Region / Department Contingencies.) Table IV-1 includes the projected statewide highway operating costs for 2004 through 2030.

UDOT Operations: UDOT Operation costs include UDOT staff, planning and preliminary engineering, maintenance, snow plowing the highways, and other costs. UDOT estimated their administrative costs based on their past budgets. In 2003, UDOT's budget for Operations was approximately $153,600,000 statewide. This cost was inflated at two percent per year until 2030. A total of $5,538,000,000 has been estimated for UDOT Operations expenses through the year 2030. Table VIII-4 summarizes the projected local highway costs for 2004 through 2030.

Contractual Maintenance: Contractual maintenance costs are the costs associated with short season maintenance projects that are contracted out such as: slurry seals, chip seals, and striping. UDOT estimated their contractual maintenance costs based on their past budgets. In 2003, UDOT's budget for contractual maintenance was $50,000,000 statewide. This cost will increase $5,000,000 in 2006 and then every 6 years after, in conjunction with the gas tax increase until 2030. A total of $1,675,000,000 has been estimated for contractual maintenance for UDOT through the year 2030.

Signals, Spot Improvements, Lighting, and Barrier: Signals, spot improvements, lighting, and barrier activities include signing, marking, and signal installation and maintenance. UDOT estimated their costs for these activities. UDOT's maintenance cost for 2003 was $10,900,000 statewide.

These costs were increased by three percent a year to account for cost inflation. Based on Utah Department of Transportation assumptions, UDOT will have approximately $488,000,000 for signals, spot improvements, lighting and barrier expenses between 2004 and 2030.

Bridge Preventative Maintenance: The Utah Department of Transportation estimated their statewide costs for bridge preventative maintenance activities at $10,000,000 in 2003. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, approximately $649,000,000 will be set aside for pavement preservation for the years 2004 through 2030.

Bridge Rehabilitation / Replacement: UDOT estimated bridge rehabilitation and replacement costs for 2004 through 2030 based on the 2003 budget of $4,700,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, $356,000,000 will be used for highway rehabilitation and replacement for the years 2004 through 2030.

Highway Rehabilitation / Replacement: The Utah Department of Transportation estimated highway rehabilitation and replacement costs for 2004 through the year 2030 based on the 2003 budget of $28,100,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, $2,027,000,000 will be used for highway rehabilitation and replacement for the years 2004 through 2030.

Hazard Elimination, Safety, Enhancements: Hazard elimination, safety, and enhancements include hazard elimination, intersection upgrades, railroad crossing improvements, other similar projects and the development of pedestrian facilities, bicycle facilities, and landscaping projects. UDOT estimated their statewide costs for these activities at $7,500,000 in 2003. Approximately 10 percent of STP funds are spent on enhancement projects. These costs were increased by three percent a year to account for cost inflation. Based on Utah Department of Transportation assumptions, UDOT will have $314,000,000 for hazard elimination, safety and enhancement expenses between 2004 and 2030.

Region / Department Contingencies: UDOT Region and department contingencies are used for overruns on projects, spot improvements and other immediate needs. UDOT estimated their statewide costs for these activities at $3,500,000 in 2003. This cost will increase $400,000 in 2006 and then every 6 years after, in conjunction with the gas tax increase until 2030. Based on Utah Department of Transportation assumptions, UDOT will have $121,000,000 for region and department contingency expenses between 2004 and 2030.

LOCAL HIGHWAY COST ESTIMATES

Six local cost categories were estimated, which include administration, maintenance, pavement preservation, traffic operations and safety, and enhancements. The total costs estimated for the various types of costs are discussed below. These assumptions are based on a survey of local agencies concerning their expenses. Growth and inflation assumptions were applied to these cost totals from 2004 through 2030. The WFRC then estimated its share of these costs for the same period of time for each of the categories. (Appendix D contains details on the estimated costs used for projecting administration, maintenance, pavement preservation, structure preservation, traffic operations and safety, and enhancements.) Table and IV-2 summarizes the projected local highway costs for 2004 through 2030.

Administration: Administration costs are the costs associated with administering transportation agencies and transportation sections of larger public works departments. These costs include such expenditures as local staff, planning and preliminary engineering costs, and so on. Cities and counties along the Wasatch Front are estimated to spend 15 percent of their revenues for transportation projects on administration. A total of approximately $977,000,000 has been estimated for local administration costs through the year 2030.

Maintenance: Maintenance activities include snow removal, sweeping, weed control, crack sealing and pothole patching. Estimates of local spending for maintenance were calculated from city and county financial reports. Local maintenance costs were estimated to be approximately $1,500 per lane mile. These costs were estimated to increase by three percent a year, while the number of lane miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane miles. A total of approximately $809,000,000 has been estimated for local maintenance costs from 2004 to 2030.

Pavement Preservation: Pavement preservation actions are treatments for streets and highways, which are more intensive than maintenance. These treatments range from a chip seal up to a full reconstruction. Local pavement preservation costs were calculated based on experience from city and county financial reports. Local agency costs for pavement preservation are estimated, on average, at about $4,100 per lane mile per year for collector, arterial and local streets. These costs were estimated to increase by three percent a year. The Wasatch Front Urban Area has 8,875 lane miles of collector, arterial and local streets. The number of lane miles was assumed to grow at one percent a year. A total of $2,185,000,000 has been estimated for local pavement preservation costs for the years 2004 through 2030.

Traffic Operations and Safety: Traffic operations activity includes signing, marking, and signal installation and maintenance. Safety improvements include hazard elimination, intersection upgrades, railroad crossing improvements, and other similar projects. Local agency costs for traffic operations and safety are estimated, on average, at about $2,100 per lane mile per year for collector, arterial and local streets. These costs were estimated to increase by three percent a year, while the number of lane miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane miles. A total of $1,096,000,000 has been estimated for local traffic operations and safety costs for the years 2004 through 2030.

Enhancements: Enhancements include development of pedestrian facilities, bicycle facilities, and landscaping projects. Local enhancement costs were estimated to be approximately $400 per lane mile. These costs were estimated to increase by three percent a year, while the number of lane miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane miles. A total of $218,000,000 has been estimated for local enhancement costs through the year 2030.

Table IV-1

PROJECTED STATE HIGHWAY COSTS
2004 – 2030

EXPENDITURE	AMOUNT
Statewide Highway Operating and Preservation Costs	
UDOT Operations	5,538,000,000
Contractual Maintenance	1,675,000,000
Signals, Spot Improvements, Lighting, Barrier	488,000,000
Bridge Preventive Maintenance	649,000,000
Bridge Rehabilitation / Replacement	356,000,000
Highway Rehabilitation / Replacement	2,027,000,000
Hazard Elimination, Safety, Enhancements	314,000,000
Region / Department Contingencies	121,000,000
Total Statewide Highway Operating and Preservation Costs	**11,168,000,000**

Table IV-2

PROJECTED LOCAL HIGHWAY COSTS
2004 – 2030

EXPENDITURE	AMOUNT
Local Highway Costs	
Administration	977,000,000
Maintenance	809,000,000
Pavement Preservation	2,185,000,000
Traffic Operations and Safety	1,096,000,000
Enhancements	218,000,000
Total Local Highway Costs	**5,285,000,000**

TRANSIT COST ESTIMATES

The costs for making the needed transit improvements as identified by the Wasatch Front Urbanized Area Long Range Transportation Plan Update were analyzed. These costs include those required to meet the needs identified in the Long Range Transportation Plan Update as well as costs estimates for general administration and the operation and maintenance of the existing transportation system.

The WFRC worked with UTA to estimate the costs to implement the 2030 Long Range Transportation Plan Update's recommended transit improvements in the Wasatch Front Urban Area. Included in these estimates are operating and maintenance costs as well as capital costs for both existing and expanded services. Recommended major capital investments are considered the construction of the proposed commuter rail, light rail, bus rapid transit, and enhanced bus lines. Other significant capital investments are the purchase of replacement and expansion vehicles and the installation of improvements to increase the speed, comfort, and connectivity of transit services. These estimated costs are discussed below.

Operating and Maintenance Costs: Operating and maintenance costs are the total non-capital costs associated with transit services. Local and paratransit bus service costs were based upon revenue miles traveled because the specific nature of the routing was unknown. Regional Commuter Rail was also based upon vehicle revenue miles because of the source material used. Light-rail, bus rapid transit, and enhanced bus corridor operating and maintenance costs, however, were based upon vehicle hours of service which takes into account estimated travel speeds.

In 2002, the Wasatch Front Urban Area had about 18,443,000 revenue miles in its regular bus service and about another 4,400,000 revenue miles in its paratransit services. The Wasatch Front Urban Area Long Range Transportation Plan Update recommends regular bus service to increase by another 100% and paratransit to increase by another 50% by the year 2030. The annual operating and maintenance costs of regular bus service in 2002 was $78,300,000 and the annual cost of Flextrans service was $14,900,000. The projected annual cost of the recommended regular and paratransit bus systems, including the 4.2 percent inflation factor, is $477,000,000 in 2030. Bus rapid transit and enhanced bus are anticipated to add an additional $89,000,000 to this 2030 operating cost.

Regional Commuter Rail operating costs are influenced by the economies of scale present in their operations. Accordingly, a per car mile cost of $10.63 was used for Ogden to Salt Lake service whereas this cost was reduced to $8.86 for the larger Provo to Ogden run. Twenty minute peak frequencies and forty minute off peak frequencies were assumed on week days and sixty minute peak hour frequencies were assumed on non-weekdays. Additionally, three-car peak- hour trains and one-car off-peak trains were assumed. This would cost WFRC $19,720,000 per year in 2008 when running from Ogden to Salt Lake and $25,983,000 per year in 2011 to run between the Utah County Line and Ogden when running between Provo and Ogden.

Operating and maintenance costs are based upon vehicle hours of service and takes into account projected travel speeds. UTA light-rail vehicle operating costs per revenue hour are $178.23. UTA bus operating costs was $27.50 per revenue hour plus $0.90 per revenue mile. Headways for these services were assumed to match that of the existing TRAX service. About three vehicles per train were assumed for the north/south line and about two vehicles per train were assumed for rail spurs, whereas single vehicles were assumed for BRT and enhanced bus. Weekend and holiday service was assumed to be half that of current TRAX weekday service.

Capital Costs: UTA will need to replace its existing fleet of buses and rail vehicles as well as expand its bus and rail fleet to provide the recommended levels of service in the year 2030. The average age of the current fleet is about seven years and, generally speaking, buses last about 12 years in service. The per bus cost ranges from $275,000 for a 40 foot bus to $470,500 for an articulated bus. Light-rail vehicles last 30 years and cost $2.2 million each. In order to expand service as recommended, an additional 506 buses or paratransit vans, 116 bus rapid transit vehicles, 83 light-rail vehicles, and 43 commuter rail vehicles will be need to be purchased and housed. Factored into the cost of each expansion vehicle is the cost of its maintenance facility. UTA estimates these facility costs to be $500,000 for each new rail vehicle and $250,000 for each new bus or BRT vehicle. Over the course of the Long Range Plan Update 1,373 regular buses and 23 light-rail, and 146 bus rapid transit vehicles will need to be replaced.

The 2030 Long Range Transportation Plan Update recommends the construction of a regional commuter rail line, an enhanced bus line, and several light-rail and bus rapid transit lines by 2030. These construction costs include the fixed-guideways, stations, and structures.

The financial plan allocated sufficient funding to build a regional commuter rail from Ogden to Salt Lake, from Salt Lake to Utah County, and from Ogden to 2700 North in Pleasant View. WFRC's

contribution to this line's capital costs is anticipated to be $637,000,000 in year of expenditure dollars.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 recommendations includes enhancements to the north/south TRAX line several light rail extensions. UTA's light rail construction estimates of $30 million per downtown mile, $25 per suburban mile, and $11 million per existing right-of-way mile, as well as park-and-ride/station costs, $10 million per structure, $2.2 million per vehicle, and a 20 percent contingency cost was used to model each of the proposed lines. The projected capital costs in year of expenditure dollars were $195 million for north/south enhancements, $298 million for the Airport Line, $19 million for the intermodal center Line, $40 million for the Sugarhouse Line, $245 million for the West Valley Line, $439 million for the 3500 South Line, $151 million for the Mid-Jordan Line, $166 for the Day break Line, $76 million for the Draper Line, and $298 million for the Traverse Line. Total year of expenditure light rail line costs are anticipated to be $1,908,000,000.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 also recommends several bus rapid transit lines. The construction costs of each bus rapid transit line was estimated based upon the construction of bus lanes where congestion is anticipated to be severe and the use of signal priority and queue jumpers at each signalized intersection, as well park-and-ride/station costs, $10 million per structure, $1 million per vehicle, and a 35 percent contingency cost. Bus lane costs were estimated at $13 million per downtown mile, $8 million per suburban mile, and $4 million per existing right-of-way mile. The projected capital costs in year of expenditure dollars were $96 million for the Washington Boulevard Line, $52 million for the Ogden/WSU Line, $198 million for the North Davis Line, $100 million for the South Davis Line, $235 million for the Tooele Line, $79 million for the Fort Union Line, $191 million for the 1300 East Line, $173 million for the Redwood Road Line, and $601 million for the Mountain View Line. Total year of expenditure bus rapid transit line costs are anticipated to be $1,725,000,000. The Foothill/I-215 enhanced bus line, with out specialized vehicles or exclusive right-of-way is anticipated to cost 80 million in year of expenditure dollars.

Other Capital and Operating Costs:

Many of the miscellaneous costs associated with UTA operations as well as the rideshare operations are included in the operating and maintenance costs discussed in the operating and capital costs above. One important exception is debt service. The Long Range Financial Plan Update assumes that UTA will pay 7.0 percent (1.5 percent more than it earns on its positive balances or 2.8 percent net of inflation) on its yearly debt.

Other capital costs include intermodal centers, transit hubs, additional park-and-ride lots, bus stop improvements, and intelligent transportation system capital projects. Intermodal centers are recommended for Ogden, Salt Lake (600 West 200 South), West Valley, and the Murray/Midvale area. The costs for the first three of these centers were derived from their environmental assessments. The cost for the Murray/Midvale center was estimated to be the same as the West Valley center at $7.5 million un-inflated dollars. Transit hubs are recommended for each commuter rail station, Weber State University, the Airport/North Temple area, the University of Utah, Sugarhouse, West Jordan, and Fort Union. The cost for each of these hubs was estimated to be $4.7 million un-inflated dollars. Park-and-rides, in addition to those in fixed-guideway corridors, are recommended for several locations. The cost for each of these park-and-rides was estimated to be $2.4 million un-inflated dollars.

Investments in Intelligent Transit Systems (ITS) and improved transit stop amenities were also

recommended in the Long Range Plan Update. Total year of expenditure ITS and transit stop amenity costs are anticipated to be $128,000,000 and $46,000,000 respectively. Table IV-3 summarizes projected transit capital and operating costs that will be needed between 2004 and 2030 to expand and improve the existing UTA system.

Table IV-3

PROJECTED TRANSIT COSTS
(INCLUDING ALLOCATED DEBT SERVICE)
2004 - 2030

EXPENDITURE	2004-2012	2013-2022	2023-2030	Total (2004-2030)
Bus & Paratransit Operating Costs	$972,000,000	$1,832,000,000	$2,633,000,000	$5,437,000,000
Bus & Paratransit Capital Costs	$172,000,000	$347,000,000	$538,000,000	$1,057,000,000
Paratransit Operating Costs	$196,000,000	$373,000,000	$501,000,000	$1,070,000,000
Paratransit Capital Costs	$17,000,000	$28,000,000	$30,000,000	$75,000,000
BRT & Enhanced Bus Operating Costs	$71,000,000	$408,000,000	$682,000,000	$1,160,000,000
BRT & Enhanced Bus Capital Costs	$526,000,000	$1,389,000,000	$0	$1,915,000,000
Rail Operating Costs	$583,000,000	$1,591,000,000	$1,796,000,000	$3,970,000,000
Rail Capital Costs	$1,795,000,000	$699,000,000	$140,000,000	$2,634,000,000
Other Capital and Operating Costs	$195,000,000	$67,000,000	$86,000,000	$348,000,000
Total Transit Costs	$4,526,000,000	$6,735,000,000	$6,406,000,000	**$17,667,000,000**

V. FINANCIAL PLAN

The Financial Plan for the Wasatch Front Urban Area was prepared based on the revenue projections and cost estimates discussed in Chapter III and IV, respectively. The projected revenues were allocated to each cost category, including administration, maintenance, management systems, and long range capacity improvements. Since highway and transit revenues and costs were projected separately and since little transfer of funds between modes is anticipated, highway and transit funding are covered separately below.

NEW CAPACITY IMPROVEMENTS

The Long Range Transportation Plan Update estimates the cost to provide new capacity for collector and arterial streets that will be needed to meet the transportation demands in 2030. These costs are approximately $9,524,000,000 in the Wasatch Front Urban Area. The cost for local street construction is not included in these estimates. It is assumed that private developers will build these streets. (Appendix E explains the cost estimating used for the Long Range Transportation Plan Update recommended freeway and arterial projects.)

HIGHWAY FUNDING PLAN

The Financial Plan assumes that federal funding for highway improvements will grow at moderate rates through the year 2030 and that existing state and local sources will grow at rates based on the trends of the past ten years. In addition, a five-cent per gallon statewide gasoline tax increase every six years beginning in 2006 has been included in the Plan's revenue projections.

The Financial Plan has allocated various revenue sources to the various cost categories. The cost of administration, maintenance, and the system preservation can all be met with projected revenues. In addition, revenues are available to implement the recommendations of the 2030 Long Range Transportation Plan Update.

The Wasatch Front Regional Council receives 55 percent of the UDOT funding available for capacity projects. This equals approximately $6,770,000,000 of the $12,309,000,000 total new capacity funds available for UDOT. WFRC also receives approximately $635,000,000 for CHF projects, for a total of $7,405,000,000 available capacity funds from UDOT. WFRC also estimates that approximately $2,318,000,000 will be available for Local capacity projects. WFRC's total amount for planning capacity projects is approximately $9,723,000,000. Table V-1 outlines revenue allocation for statewide and local highway improvements recommended by the Long Range Transportation Plan Update for 2030. (Appendix G provides more detail on these projected revenues and costs.)

Table V-1
STATEWIDE, LOCAL, AND REGIONAL HIGHWAY REVENUE ALLOCATION
2004 - 2030

EXPENDITURE	AMOUNT
Statewide Revenue Available	23,477,000,000
Statewide Highway Operating Costs	(11,168,000,000)
Available Funds for Capacity	12,309,000,000
WFRC's Available Funds for Capacity from State Funds	**7,405,000,000**
Regional Revenue Available	1,266,000,000
Local Revenue Available	6,337,000,000
Local Highway Operating Costs	(5,285,000,000)
WFRC's Available Funds for Capacity from Local Funds	**2,318,000,000**
Total WFRC Available Funds for Capacity	**9,723,000,000**
Total WFRC Highway Project Costs 2004-2030	**9,524,000,000**

TRANSIT FUNDING PLAN

The Financial Plan assumes that federal funding for transit operating costs will continue at current inflation adjusted levels. Federal discretionary funding is projected to provide 52% of major transit improvements such as enhanced bus, bus rapid transit, light rail, or commuter rail and 39% of all capital costs. Local sales tax revenues are projected to grow at 5.5 percent per year which is somewhat lower than past rates but will have a rate increase roughly doubling it in 2007. Fare revenues will grow so that fares will pay for 20 percent of the operating costs for bus service, just under 5 percent for paratransit service. Additionally, fares are projected to pay for 40 percent for north/south light rail line and regional commuter rail line services and 30 percent for other rail, bus rapid transit, and enhanced bus lines. Other revenues, including joint development and advertising, are also anticipated to increase.

Transit cost estimates form the basis for the Financial Plan's revenue allocation for the Long Range Transportation Plan Update recommended improvements for 2030. Transit costs include an increase in revenue miles for both bus service and paratransit service and increases in UTA's bus fleet to about 890 buses in the Wasatch Front Urban Area. They also include the development of regional commuter rail, the extension of light rail service, the development of a bus rapid transit/enhanced bus system and other transit improvements, including bus stop, park & ride lots and transit hubs, rideshare vans, and support equipment. Table V-2, entitled "Transit Revenue Allocation, 2004 – 2030" breaks down revenue allocation by the type of expenditure for the Salt Lake, Ogden and Wasatch Front Region.

Table V-2

TRANSIT REVENUE ALLOCATION
(Including Allocated Debt Service)
2004 - 2030

EXPENDITURE	AMOUNT
Bus & Paratransit Operating Costs	6,504,000,000
Bus & Paratransit Capital Costs	1,132,000,000
Rail, BRT, & Enhanced Bus Operating Costs	5,128,000,000
Rail, BRT, & Enhanced Bus Capital Costs	4,659,000,000
System Connectivity Capital Costs	348,000,000
Total Transit Costs	**$17,772,000,000**
Total Transit Revenues	**$18,453,000,000**

CONCLUSION

The Financial Plan for the Wasatch Front Urbanized Areas provides adequate revenues to not only address the needs to operate and maintain the existing highway and transit systems, but to provide for future demand. A recognized need to increase long range highway capacity is addressed in 177 funded projects designed to improve the overall highway system through increased capacity. The transit portion of the Plan allows for a substantial increase in the existing bus and rideshare van fleet, the expansion of the Region's light rail system, creation of a bus rapid transit/enhanced bus and the implementation of regional commuter rail service from Ogden to Provo.

APPENDIX A
CENTENNIAL HIGHWAY FUND PROJECTS 1998 - 2007

ROUTE	PROJECT LOCATION	YEAR	AMOUNT
County	Agricultural Access Road	1998	1,501,000
91	1100 South Overpass - Brigham City	1998 - 2006	22,000,000
6	Soldier Summit to Helper	1998 - 2006	32,000,000
6	Price to Green River	1999 - 2004	12,000,000
10	Price to State Route Interstate 70	2000 - 2004	5,000,000
County	Cache Valley Highway	1998 - 1999	608,000
89	Logan Canyon	2002 - 2005	19,000,000
91	Smithfield to Idaho State Line	2000 - 2005	30,000,000
89	Mountain Road Interstate 15 to Harrison Blvd.	1998 - 2005	101,270,000
County	Legacy Highway in Farmington to Interstate 80	1998 - 2007	468,193,000
15	Interstate 15 North Expansion and HOV Ramp	1999 - 2001	28,283,000
15	Interstate 15 from 600 North to Centerville	1998 - 2004	1,487,000
20	Interstate 15 to US Highway 89	1998 - 2005	15,000,000
191	Moab to Interstate 70 at Crescent Junction	1998 - 2005	20,000,000
56	Interstate 15 to Iron Springs Road	1998 - 2004	12,000,000
Local	2000 East Extension to Interstate 15	2002 - 2007	-
68	Redwood Road from 9000 South to 12300 South	1999 - 2005	50,000,000
71	12300 South from 700 East to Bangerter Highway	1998 - 2005	91,300,000
80	Interstate 80 from State Street to Parley's Canyon	1998 - 2007	45,000,000
171	3500 South from 2700 West to 8400 West	2001 - 2007	50,000,000
173	5400 South, Railroad Crossing at 4800 West	1998 - 2000	5,173,000
201	2100 South from Bangerter Highway to the Jordan River	2003 - 2005	66,000,000
151	10600 South from I-15 to Redwood Road	2001 - 2006	43,000,000
191	Blanding to Moab	2001 - 2005	10,000,000
80	Interstate 80 at Silver Creek Junction	1999 - 2001	22,000,000
36	Tooele to Lakepoint	1998 - 2006	49,000,000
6	Interstate 15 to Soldier Summit	1998 - 2005	17,000,000
15	South University Avenue in Provo	1998 - 2003	-
15	University Avenue to Center Street in Provo	2003 - 2003	32,000,000
15	1200 South in Orem	1998 - 2000	18,500,000
52	800 North in Orem from Interstate 15 to Olmsted Junction	2002 - 2005	40,000,000
15	Pleasant Grove	1998 - 2003	16,518,000
189	Provo Canyon from Wildwood to Heber City	1999 - 2005	45,000,000
County	Southern Corridor	1998 - 1999	2,000,000
15	Washington Interchange	1998 - 2005	26,000,000
18	Bluff Street and Sunset Interchange	1998- 2001	2,627,000
15	Interstate 15 from 31st Street to 2700 North in Ogden	2004 - 2007	180,000,000
79	31st Street from Wall Street to Harrison Blvd. in Ogden	1999 - 2005	35,000,000
134	2700 North from Interstate 15 to Washington Blvd.	2002 - 2004	11,000,000
26	Riverdale Road from Interstate 15 to Washington Blvd.	2002 - 2006	28,000,000
15	11400 South Interchanges	1998 - 2006	42,000,000
154	Bangerter Highway from 90th South to Interstate 15	1998 - 2003	103,233,000
TOTAL			**$1,798,693,000**

APPENDIX B
LONG RANGE TRANSPORTATION PLAN UPDATE
HIGHWAY PROJECTS 2004 – 2030

	ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	PHASE 1=04-2012 2=13-2022 3=23-2030	PHASE COST
*	*Indicates projects added since 2002-2030 Long Range Plan*								
	SALT LAKE COUNTY, EAST-WEST FACILITIES								
	1	500 / 700 South	Surplus Canal	Mountain View Corridor	Widening	4.2	Collector	2	$25,600,000
	2	Indiana Avenue	Redwood Road	Pioneer Road	Widening	1.1	Collector	2	$6,700,000
	3	Indiana Avenue	Pioneer Road	California Avenue	New Construction	1.7	Collector	2	$10,400,000
	4	California Avenue	Pioneer Road	Bangerter Hwy.	Widening	1.7	M. Arterial	2	$12,000,000
	5	California Avenue	Bangerter Hwy.	4800 West	Widening	0.8	M. Arterial	2	$5,700,000
	6	California Avenue	4800 West	Mountain View Corridor	Widening	1.0	M. Arterial	2	$7,100,000
	7	I-80	State Street	Parleys Canyon	Widening	5.6	Freeway	2	$900,000,000
	8	SR-201	Jordan River	3200 West	Widening	2.6	Freeway	1	$65,000,000
	9	SR-201	3200 West	Mountain View Corridor	Widening	3.4	Freeway	2	$105,000,000
	10	SR-201	I-215 Interchange and Auxiliary Lanes		Upgrade	-	Freeway	3	$125,000,000
	11	SR-201 Interchange	@ 7200 West		New Construction	0.0	Freeway	2	$15,600,000
	12	SR-201 Interchange	@ 8400 West		New Construction	0.0	Freeway	2	$15,600,000
*	104	2700 South	4800 West	5600 West	New Construction	1.4	M. Arterial	1	$6,500,000
	13	3100 South	1400 West	3300 South	New Construction	0.5	Collector	1	$3,700,000
*	14	3500 South	Redwood Road	4000 West	Widening	1.5	P. Arterial	1	$13,300,000
	15	3500 South	4000 West	Mountain View Corridor	Widening	2.3	P. Arterial	1	$20,300,000
*	16	3500 South	Mountain View Corridor	8400 West	Widening	3.2	M. Arterial	2	$37,400,000
	17	3900 South	2300 East	Highland Drive	Widening	1.0	M. Arterial	1	$5,200,000
	18	4500 South	2300 East	700 East	Widening	2.4	P. Arterial	3	$26,300,000
	19	4500 South	I-15	State Street	Widening	0.7	P. Arterial	1	$3,900,000
	20	4700 South	I-15	Redwood Road	Widening	2.0	P. Arterial	2	$19,100,000
	21	4700 South	4000 West	Mountain View Corridor	Widening	2.3	P. Arterial	2	$14,000,000
	23	6200 South	5600 West	SR-111	New Construction	1.8	M. Arterial	2	$11,000,000
*	112	7000 South	3000 East	Wasatch Blvd.	Widening	1.0	M. Arterial	1	$4,600,000
	24	7000 South	Redwood Road	Bangerter Hwy.	Widening	1.9	M. Arterial	2	$11,600,000
	25	New Bingham Hwy.	7800 South	SR-111	Widening	4.4	M. Arterial	3	$42,100,000
	26	7800 South	2700 West	Bangerter Hwy.	Widening	1.0	M. Arterial	1	$5,600,000
	27	7800 South	Bangerter Hwy.	Mountain View Corridor	Widening	2.8	M. Arterial	1	$15,500,000
*	222	7800 South	Mountain View Corridor	SR-111	Widening	1.4	M. Arterial	2	$17,500,000
	28	9000 South / 9400 South	700 East	1300 East	Widening	1.3	P. Arterial	1	$7,200,000
	30	9000 South	Bangerter Hwy.	New Bingham Hwy.	Widening/NC	3.1	P. Arterial	1	$17,200,000
	29	9400 South	2100 East	Wasatch Boulevard	Widening	2.1	P. Arterial	3	$20,100,000
	31	9800 South/10000 South	1300 West	Redwood Road	New Construction	0.5	Collector	1	$2,300,000
	32	10600 South	1300 East	Highland Drive	Widening	0.9	M. Arterial	1	$4,200,000
	33	10400 South	Redwood Road	Bangerter Hwy.	Widening	2.0	M. Arterial	1	$11,100,000
	34	10400 South	Bangerter Hwy.	SR-111	New Construction	5.0	M. Arterial	2	$47,700,000
	35	11400 South	1300 East	Highland Drive	Widening	1.1	M. Arterial	3	$9,600,000
	37	11400 South	I-15	700 East	Widening	1.2	M. Arterial	1	$6,700,000
	38	11400 South	I-15	Redwood Road	Widening/NC	2.3	M. Arterial	1	$24,500,000
	39	11400 South	Redwood Road	Bangerter Hwy.	Widening	2.4	M. Arterial	2	$17,600,000
	40	11400 South / 11800 South	Bangerter Hwy.	SR-111	Widening/NC	4.9	M. Arterial	2	$46,800,000
	42	12600 South	Bangerter Hwy.	5200 West	Widening	2.0	M. Arterial	3	$23,500,000
	43	12600 South	5200 West	SR-111	Widening/NC	3.7	M. Arterial	3	$56,400,000
	44	13400 South	Mountain View Corridor	Bangerter Hwy.	Upgrade	1.0	P. Arterial	3	$12,500,000
	45	14600 South	D&RG RR Structure		Remove, Replace	0.0	M. Arterial	3	$4,100,000
	46	Porter Rockwell Road	Frontage Road	Redwood Road	New Construction	1.7	M. Arterial	3	$28,800,000
	47	Porter Rockwell Road	I-15/14600 South Interchange	Frontage Road	Widening	1.1	M. Arterial	3	$18,600,000
	48	Avalanche snowshed over Little Cottonwood Canyon Road @ Whitepine Chutes			New Construction	0.0	M. Arterial	1	$13,000,000

LONG RANGE TRANSPORTATION PLAN UPDATE
HIGHWAY PROJECTS 2004 - 2030
(Continued)

	ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	PHASE 1=04-2012 2=13-2022 3=23-2030	PHASE COST
		SALT LAKE COUNTY, NORTH-SOUTH FACILITIES							
	84	8400 West/SR-111	SR-201	3500 South	Widening	1.5	M. Arterial	3	$21,100,000
	85	8400 West/SR-111	5400 South	11800 South	Widening	8.5	M. Arterial	3	$101,300,000
	78	Mountain View Corridor	I-80	Utah County Line	ROW Purchase	25.5	Various	1	$33,500,000
	79	MVC / 5600 West	I-80	2100 South	Widen/NC	3.3	P. Arterial	3	$36,900,000
	80	Mountain View Corridor	2100 South	6200 South	New Construction	6.0	Freeway	1	$353,000,000
	81	Mountain View Corridor	6200 South	10500 South	New Construction	5.9	Freeway	2	$459,700,000
	82	Mountain View Corridor	10500 South	13400 South	New Construction	3.4	Freeway	3	$345,600,000
	83	Mountain View Corridor	13400 South	Utah County Line	New Construction	6.9	P. Arterial	3	$63,200,000
	77	5600 West	4400 South	6200 South	Widening	2.5	M. Arterial	1	$13,900,000
	75	Gladiola (3400/3200 W)	500 South	California Avenue	Widening/NC	1.2	Collector	2	$7,300,000
	76	3200 West	California Avenue	1820 South	New Construction	0.7	Collector	2	$4,300,000
	74	2200 West	2200 North	700 North	Widening	2.0	Collector	2	$12,200,000
	54	I-215	I-80 (West Side)	300 East	Widening	11.2	Freeway	1	$58,900,000
	55	I-215 Interchange	@ 3900 South or 4500 South		Upgrade	0.0	Freeway	3	$50,900,000
	72	Redwood Road	Davis County Line	1000 North	Widening	2.2	M. Arterial	2	$16,200,000
	73	Redwood Road	10400 South	Bangerter Hwy.	Widening	4.3	P. Arterial	1	$32,500,000
	101	Redwood Road	Bangerter Hwy.	Utah County Line	Widening	4.8	P. Arterial	1	$26,600,000
	71	900 West	3300 South	700 West	New Construction	0.9	Collector	2	$5,500,000
	70	Bingham Junction Blvd.	6800 South	8400 South	New Construction	2.1	M. Arterial	2	$20,100,000
	49	I-15	I-215	Beck Street	Upgrade	1.2	Freeway	1	$4,000,000
	88	I-15	I-215	Beck Street	Widening	1.2	Freeway	3	$122,000,000
	50	I-15	Beck Street	600 North	Widening	3.0	Freeway	3	$305,000,000
	51	I-15	10600 South	Bangerter Highway	Widening	3.8	Freeway	1	$25,300,000
	52	I-15	Bangerter Highway	Utah Co. Line	Widening	3.9	Freeway	1	$11,500,000
*	221	I-15	10600 South	Utah Co. Line	Widening	7.7	Freeway	2	$32,800,000
	36	I-15 Interchange	@ 11400 South		New Construction	0.0	Freeway	1	$22,400,000
	53	I-15 Interchange	@ 14600 South		Upgrade	0.0	Freeway	3	$20,400,000
	56	Main Street	4400 South	Vine Street	New Construction	0.9	Collector	2	$5,500,000
	57	Main Street / 300 West	5200 South	7200 South	Widening/NC	3.1	Collector	1	$14,300,000
	58	State Street	7200 South	11400 South	Widening	5.3	M. Arterial	1	$38,100,000
	59	700 East	9400 South	12300 South	Widening	3.7	P. Arterial	1	$20,500,000
	60	900 East	2900 South	4500 South	Widening	2.1	Collector	3	$16,700,000
	61	900 East	Van Winkle Expressway	6600 South	Widening	2.4	P. Arterial	1	$11,100,000
	63	2000 East	Fort Union Blvd.	9400 South	Widening	3.1	P. Arterial	3	$29,700,000
	64	Highland Drive	9400 South	Sego Lily	Widening/NC	1.2	P. Arterial	1	$6,700,000
	65	Highland Drive	Sego Lily	13800 South	New Construction	4.4	P. Arterial	2	$63,400,000
	66	Highland Drive Conn.	13800 South	I-15	Widening/NC	2.6	P. Arterial	2	$19,100,000
	67	I-80 to I-215 Ramp	I-80 Eastbound	I-215 Southbound	Widening	0.5	Freeway	2	$3,200,000
	68	Wasatch Boulevard	7000 South	North Little Cotton Road	Widening	2.2	P. Arterial	2	$16,200,000
	69	Wasatch Boulevard	North Little Cotton Road	Little Cottonwood Road	Widening	1.1	Collector	1	$5,100,000
		SALT LAKE AREA ILLUSTRATIVE PROJECTS							
	98	I-215	I-15 (North Salt Lake)	I-80 (West Side)	Widening	6.3	Freeway	Illustrative	
	99	I-215	300 East	2000 East	Widening	3.5	Freeway	Illustrative	
	100	SR-201	Mountain View Corridor	I-80	Widening	8.9	Freeway	Illustrative	
	102	Foothill Drive	1700 South	I-80	Widening	1.5	P. Arterial	Illustrative	
		SALT LAKE AREA PROJECTS FROM 2002 PLAN - COMPLETED, DELETED, MODIFIED, OR UNDER CONSTRUCTION							
	22	6200 South	2700 West	5600 West	Widening	3.5	M. Arterial	Under Construction	
	26	7800 South	Redwood Road	2700 West	Widening	1.2	M. Arterial	Under Construction	
	27	9800 South/10000 South	I-15	1300 West	New Construction	1.5	Collector	Completed	
	41	12300 South/12600 South	900 East	Bangerter Hwy.	Widening	6.4	P. Arterial	Under Construction	
	62	1300 East	Creek Road	7800 South	Widening	0.6	M. Arterial	Completed	
	73	Redwood Road	9000 South	10400 South	Widening	1.8	P. Arterial	Under Construction	
	104	2700 South	Bangerter Hwy.	Mountain View Corridor	New Construction	1.2	M. Arterial	Completed	
	106	3500 South Interchange	@ I-215		Improve flow	0.0	Freeway	Completed	
	107	5400 South	RR Structure @ 4800 West		Widening	0.0	M. Arterial	Completed	
	112	7000 South	1700 East	3000 East	Widening	1.7	M. Arterial	Completed	
	114	10400 South / 10600 South	I-15	Redwood Road	Widening	2.3	M. Arterial	Completed	
	121	1300 East	Van Winkle Expressway	5900 South	Widening	2.0	M. Arterial	Completed	
	124	5600 West	2100 South	4400 South	Widening	2.0	Collector	Completed	

LONG RANGE TRANSPORTATION PLAN UPDATE
HIGHWAY PROJECTS 2004 - 2030
(Continued)

ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	PHASE 1=04-2012 2=13-2022 3=23-2030	PHASE COST
	DAVIS COUNTY, EAST-WEST FACILITIES							
127	2300 North (Clinton)	RR Structure		Remove, Replace	0.2	Collector	1	$2,400,000
128	1800 North	Main Street (Sunset)	2000 West (Clinton)	Widening	2.0	M. Arterial	3	$24,900,000
129	1800 North (Clinton)	2000 West	5000 West	Widening	3.0	M. Arterial	2	$18,300,000
130	700 South	State Street (Clearfield)	South Main Street	Widening	0.6	Collector	1	$5,300,000
131	200 South/700 S Conn.	200 South (Clearfield)	700 South (Clearfield)	New Construction	0.7	Collector	1	$3,300,000
132	200 South	500 West (Clearfield)	2000 West	Widening/NC	1.6	Collector	1	$14,200,000
133	200 South (Syracuse)	2000 West	Legacy Parkway	New Construction	1.3	Collector	2	$7,900,000
135	Syracuse Road (SR-108)	1000 West	2000 West	Widening	1.0	M. Arterial	1	$5,600,000
136	Syracuse Road (SR-127)	2000 West	4500 West	Widening	2.5	M. Arterial	2	$18,400,000
139	Antelope Drive	2200 East	US-89	New Construction	0.6	M. Arterial	2	$3,700,000
140	Gordon Avenue (1000 N.)	1600 East	US-89	New Construction	1.3	Collector	2	$7,900,000
137	Hill Field Road Extension	2200 West	3200 West (Layton)	New Construction	2.1	M. Arterial	2	$15,400,000
141	Gentile St (Layton)	SR 126	Fairfield Road	Widening	1.0	M. Arterial	1	$4,600,000
142	Gentile St (Layton)	Fairfield Road	1350 East (Oakhills Dr)	Widening	0.3	M. Arterial	2	$1,900,000
143	Oakhills Drive (SR-109)	1350 East	US-89	Widening	1.5	M. Arterial	2	$9,200,000
144	700 South (Layton)	I-15	2700 West (Layton)	New Construction	3.1	M. Arterial	2	$29,600,000
145	200 North (Kaysville)	700 East	US-89	Widening	0.6	M. Arterial	1	$2,800,000
146	200 North (Kaysville)	I-15	Legacy Parkway	Widening	3.0	M. Arterial	2	$18,300,000
90	Parrish Lane (Centerville)	I-15	Legacy Parkway	Widening/NC	0.6	M. Arterial	1	$2,800,000
92	500 South	I-15	Legacy Parkway	Widening	2.0	M. Arterial	1	$11,100,000
	DAVIS COUNTY, NORTH-SOUTH FACILITIES							
157	Legacy Parkway	5500 South (Roy)	I-15/US-89	ROW Purchase	17.7	P. Arterial	1	$23,600,000
158	Legacy Parkway	Weber Co. Line	Syracuse Road	New Construction	4.5	P. Arterial	2	$38,600,000
159	Legacy Parkway	Syracuse Road	Gentile St (Layton)	New Construction	3.0	P. Arterial	3	$33,600,000
227	Legacy Parkway	Gentile St (Layton)	I-15/US-89 (Farmington)	New Construction	9.4	P. Arterial	1	$30,500,000
228	Legacy Parkway	Gentile St (Layton)	I-15/US-89 (Farmington)	Widening	9.4	P. Arterial	2	$40,300,000
94	Legacy Parkway	I-15/US-89 (Farmington)	I-215	New Construction	12.0	P. Arterial	1	$451,000,000
155	2000 West (SR-108)	Syracuse Road (SR-108)	Weber County Line	Widening	4.5	M. Arterial	1	$24,900,000
156	2700 West (Layton)	Hill Field Road Extension	Legacy Parkway	New Construction	1.4	M. Arterial	2	$16,400,000
93	Redwood Road	500 South (Davis Co.)	Salt Lake Co. Line	Widening	4.3	M. Arterial	2	$31,500,000
147	I-15	Weber Co. Line	Hillfield Road (SR-232)	Widening	6.4	Freeway	3	$711,500,000
138	I-15 Interchange	@ Hillfield Road		Upgrade	0.0	Freeway	2	$31,200,000
148	I-15 Interchange	@ South Layton Interchange		Upgrade	0.0	Freeway	1	$29,500,000
86	I-15	US-89 (Farmington)	500 S. (Davis Co)	Widening	7.1	Freeway	3	$721,700,000
149	I-15 Interchange	@ Glovers Lane or Lund Lane		New Construction	0.0	Freeway	3	$50,900,000
89	I-15 Interchange	@ Parrish Lane		Widening	0.0	Freeway	1	$10,600,000
87	I-15	500 S. (Davis Co)	I-215	Widening	3.6	Freeway	2	$374,000,000
150	Main Street	200 North (Kaysville)	I-15 (Layton)	Widening	1.5	M. Arterial	1	$8,300,000
151	Fort Lane (Layton)	Main Street	Gordon Avenue (1000 N.)	Widening	1.6	Collector	1	$7,400,000
152	Fairfield Road	200 North (Kaysville)	Gentile St (Layton)	Widening	1.6	Collector	2	$9,800,000
153	Fairfield Road	Gentile St (Layton)	SR-193	Widening	2.9	Collector	2	$17,700,000
154	Church Street	Gordon Avenue (1000 N.)	SR-193	Widening	2.1	Collector	2	$12,800,000
91	Bountiful Blvd.	Eaglewood	Beck Street	New Construction	3.1	Collector	2	$15,000,000
160	US-89	I-15 (Farmington)	I-84	Widening	11.1	P. Arterial	3	$338,500,000
166	US-89 Interchange	@ Antelope Drive		New Construction	0.0	P. Arterial	2	$46,800,000
165	US-89 Interchange	@ Gordon Avenue		New Construction	0.0	P. Arterial	2	$31,200,000
164	US-89 Interchange	@ Oakhills Drive (SR-109)		New Construction	0.0	P. Arterial	2	$46,800,000
163	US-89 Interchange	@ 400 North (Fruit Heights)		New Construction	0.0	P. Arterial	1	$45,900,000

LONG RANGE TRANSPORTATION PLAN UPDATE
HIGHWAY PROJECTS 2004 - 2030
(Continued)

	ID	STREET	FROM	TO	TYPE	LENGTH (MILES)	FUNC CLASS	PHASE 1=04-2012 2=13-2022 3=23-2030	PHASE COST
		WEBER COUNTY, EAST-WEST FACILITIES							
	171	Mountain Road	2700 North	US-89	New Construction	5.6	M. Arterial	3	$39,900,000
	174	Pioneer Road	I-15	1200 West	Widening	0.9	Collector	2	$9,400,000
	175	Pioneer Road / 2nd Street	1200 West	Wall Avenue	Widening	1.8	Collector	1	$13,000,000
	176	2nd Street	Wall Avenue	Washington Blvd.	Widening	0.4	Collector	2	$3,900,000
	177	12th Street (SR 39)	1200 West	Wall Ave	Widening	1.6	P. Arterial	2	$15,300,000
	178	1200 South	I-15	Legacy Parkway	Widening	4.4	P. Arterial	3	$68,100,000
	180	24th Street	I-15	Lincoln Avenue	Widening	1.7	P. Arterial	3	$76,800,000
	181	Hinckley Drive	I-15	Wall Ave	Widening	0.8	P. Arterial	1	$5,800,000
	184	40th Street	Wall Avenue	Gramercy Avenue	Widening	1.6	M. Arterial	1	$7,400,000
	185	4000 South (SR-37)	1900 W (SR-126) (Roy)	4700 W (W. Haven)	Widening	3.5	Collector	2	$21,300,000
	186	Midland Drive (SR-108)	SR-126 @ SR-79	3500 West (Roy)	Widening/NC	2.6	M. Arterial	1	$14,400,000
	187	4800 South	1900 W (SR-126) (Roy)	3500 West (Roy)	Widening	2.0	Collector	1	$9,200,000
	188	5500 South	3500 West (Roy)	5900 West (Hooper)	Widening	3.1	M. Arterial	2	$18,900,000
	189	5600 South Conn.	I-15	I-84	New Construction	1.2	M. Arterial	2	$7,800,000
	190	Edgewood Dr	Adams Avenue	Glassman Way	New Construction	0.4	Collector	1	$1,500,000
		WEBER COUNTY, NORTH-SOUTH FACILITIES							
	212	Legacy Parkway	5500 South (Roy)	12th Street	ROW Purchase	5.7	Various	1	$17,700,000
	213	Legacy Parkway	5500 South (Roy)	Davis Co. Line	New Construction	0.8	P. Arterial	2	$6,900,000
	191	4700 West	4000 South	4800 South	New Construction	1.0	M. Arterial	2	$7,400,000
	200	3500 West (SR-108)	Midland Drive	Davis County Line	Widening	1.6	M. Arterial	1	$8,900,000
	208	I-15	2700 North	450 North	Widening	2.6	Freeway	3	$180,200,000
	230	I-15	450 North	12th Street	Widening	1.8	Freeway	2	$95,700,000
	209	I-15	12th Street	31st Street	Widening	4.8	Freeway	1	$180,000,000
	210	I-15	31st Street	Davis Co. Line	Widening	4.1	Freeway	3	$477,800,000
	179	I-15 Interchange	@ 24th Street		Upgrade	0.0	Freeway	1	$11,800,000
	211	I-15 Interchange	@ I-84		Upgrade	0.0	Freeway	3	$81,400,000
*	229	I-15 Interchange	@ Riverdale Road (SR-26)		Upgrade	0.0	Freeway	1	$10,400,000
	196	1200 West	12th Street	400 North	Widening	1.6	Collector	2	$11,800,000
	195	1200 West	17th Street	12th Street	Widening	0.6	Collector	1	$2,800,000
	194	1100/1200 West	Weber River	17th Street	New Construction	0.3	Collector	1	$1,400,000
	193	1100 West	20th Street	Weber River	Widening	0.3	Collector	1	$1,400,000
	204	Riverdale Road (SR-26)	SR-126	Wall Ave	Widening	3.0	P. Arterial	1	$29,400,000
	205	Riverdale Road (SR-26)	Wall Ave	Washington Blvd.	Widening	0.7	P. Arterial	1	$6,900,000
	198	300 West	Riverdale Road	4400 South	Widening	0.5	Collector	1	$2,800,000
	199	300 West	4400 South	4800 South	Widening	0.3	Collector	1	$1,400,000
	201	Wall Avenue	2700 North	US-89	New Construction	2.4	Collector	3	$23,700,000
	192	Monroe Boulevard	1300 North	2700 North	New Construction	2.0	M. Arterial	2	$14,700,000
	202	Harrison Blvd.	400 North	7th St	Widening	1.0	Collector	2	$7,400,000
	203	Harrison Blvd.	12th St	US-89	Widening	6.1	P. Arterial	2	$44,700,000
	226	US-89	I-84	Harrison Blvd.	Widening	1.9	P. Arterial	1	$33,600,000
	214	US-89 Interchange	@ Uintah/I-84		Upgrade	0.0	P. Arterial	1	$70,700,000
	206	Skyline Drive	US-89	Country Hills Dr	New Construction	3.6	Collector	2	$21,900,000
	207	Skyline Drive	Country Hills Dr	36th Street	Widening	0.9	Collector	2	$5,500,000
		OGDEN / LAYTON AREA ILLUSTRATIVE PROJECTS							
	169	I-15	Hillfield Road (SR-232)	US-89	Widening	7.4	Freeway	Illustrative	
	170	Legacy Parkway	5500 South (Roy)	1200 South	New Construction	5.7	P. Arterial	Illustrative	
		OGDEN / LAYTON AREA PROJECTS FROM 2002 PLAN - COMPLETED, DELETED, MODIFIED, OR UNDER CONSTRUCTION							
	134	Syracuse Road (SR-108)	Main Street (Clearfield)	1000 West	Widening	1.0	M. Arterial	Under Construction	
	137	Hill Field Road Extension	Angel Street	2200 West (Layton)	New Construction	1.0	M. Arterial	Completed	
	161	US-89 Interchange	@ Burke Lane		New Construction	0.0	P. Arterial	Under Construction	
	162	US-89 Interchange	@ Shepard Lane		New Construction	0.0	P. Arterial	Under Construction	
	172	2700 North (SR-134)	1900 West (SR-126)	US-89	Widening	1.1	M. Arterial	Under Construction	
	173	2700 North	US-89	400 East (N. Ogden)	New Construction	1.9	M. Arterial	Under Construction	
	182	30th Street / 31st Street	Wall Avenue	Washington Blvd.	Widening	0.4	P. Arterial	Under Construction	
	183	30th Street	Washington Blvd.	Harrison Blvd.	Widening	1.1	P. Arterial	Under Construction	
	184	40th Street	Gramercy Avenue	Harrison Blvd.	Widening	0.6	M. Arterial	Under Construction	
	197	1900 West (SR-126)	Weber River	12th Street	Widening	0.4	M. Arterial	Under Construction	
	215	200 South/Center Conn.	500 West (Clearfield)	SR-126 (Clearfield)	New Construction	0.7	Collector	Completed	

The estimated total costs for all recommended Wasatch Front Urban Area LRP highway improvement projects for 2004 through 2030 are summarized in the table below. These estimated cost totals are divided into Phase 1 (2004 through 2012), Phase 2 projects (2013 through 2022), and Phase 3 projects (2023 through 2030) for both the Salt Lake and Ogden / Layton Urbanized Areas.

LONG RANGE TRANSPORTATION PLAN UPDATE
COST SUMMARY FOR HIGHWAY PROJECTS
2004 - 2030

Estimated Cost of all Salt Lake Urbanized Area Phase 1 Highway Projects	$907,200,000
Estimated Cost of all Salt Lake Urbanized Area Phase 2 Highway Projects	2,082,000,000
Estimated Cost of all Salt Lake Urbanized Area Phase 3 Highway Projects	1,456,300,000
Total 2030 Salt Lake Urbanized Area Projects	**$4,445,500,000**
Estimated Cost of all Ogden / Layton Urbanized Area Phase 1 Highway Projects	1,114,300,000
Estimated Cost of all Ogden / Layton Urbanized Area Phase 2 Highway Projects	1,135,300,000
Estimated Cost of all Ogden / Layton Urbanized Area Phase 3 Highway Projects	2,829,000,000
Total 2030 Ogden / Layton Urbanized Area Projects	**$5,078,600,000**
Estimated Cost of all Wasatch Front Phase 1 Highway Projects	2,021,500,000
Estimated Cost of all Wasatch Front Phase 2 Highway Projects	3,217,300,000
Estimated Cost of all Wasatch Front Phase 3 Highway Projects	4,285,300,000
Total 2030 Wasatch Front Highway Projects	**$9,524,100,000**

APPENDIX C
LONG RANGE TRANSPORTATION PLAN UPDATE
TRANSIT PROJECTS
2004 - 2030

Description			Phase	Capital Cost
Project	**Type Improvement**	**General Location(s)**		
ALL COUNTIES				
Salt Lake - Provo Commuter Rail	New Construction	Current Union Pacific mainline ROW	1	210,000,000
Ogden-Salt Lake Commuter Rail	New Construction	Current Union Pacific mainline ROW	1	346,000,000
Park-and-Ride lots	New Construction	Three locations as needed region wide	1	10,000,000
WEBER COUNTY				
North Weber Commuter Rail	New Construction	Current Union Pacific mainline	1	81,000,000
Washington Bus Rapid Transit	New Construction	3100 No. to about Harrison Blvd.	1	96,000,000
Ogden/WSU Bus Rapid Transit	New Construction	24th Street & Harrison Blvd. to Wash. Blvd.	1	52,000,000
North Davis (Ogden-Clearfield) Bus Rapid Transit	New Construction	Ogden Intermodal Center to Clearfield Commuter Rail Station	2	153,000,000
DAVIS COUNTY				
North Davis (Ogden-Clearfield) Bus Rapid Transit	New Construction	Ogden Intermodal Center to Clearfield Commuter Rail Station	2	153,000,000
North Davis (Layton) Bus Rapid Transit	New Construction	Clearfield Commuter Rail Station to Layton Commuter Rail Station	2	60,000,000
North Davis (Kaysville) Bus Rapid Transit	New Construction	Layton Commuter Rail Station to Farmington Commuter Rail Stn	2	45,000,000
South Davis (North of Parrish Ln.) Bus Rapid Transit	New Construction	Farmington Commuter Rail Station to Parrish Lane	2	18,000,000
South Davis (South of Parrish Ln.) Bus Rapid Transit	New Construction	Parrish Lane to downtown Salt Lake City	1	82,000,000
Layton Transit Hub	Upgrade	Layton Commuter Rail Station	1	3,000,000
Woods Cross Transit Hub	Upgrade	Near 500 South and I-15	1	3,000,000
SALT LAKE COUNTY				
Airport LRT and/or BRT Line	New Construction	Downtown Salt Lake City to Salt Lake International Airport	1	298,000,000
Sugarhouse LRT Line	New Construction	Sandy LRT Line at about 2300 So. to about 1100 East	1	40,000,000
West Valley LRT Line	New Construction	Sandy LRT Line at about 2300 So. to West Valley Intermodal Ctr.	1	245,000,000
3500 South LRT Line	New Construction	West Valley Intermodal Ctr. to 8400 W. to Hwy. 201	2	439,000,000
Fort Union BRT Line	New Construction	Sandy LRT Line at about Fashion Place West to Fort Union	2	79,000,000
Mid Jordan LRT	New Construction	Sandy LRT Line at about Fashion Place West to Bangerter Hwy.	1	151,000,000
Traverse East (North of 14600 So) LRT and/or BRT	New Construction	Draper LRT Line at 12300 So. to 14600 So.	2	195,000,000
Traverse East (South of 14600 So) LRT and/or BRT	New Construction	14600 So. to Utah County	3	103,000,000
Sandy LRT Line Efficacy Improvements	Upgrade	Main Street SLC to 10000 South	1	80,000,000
Draper LRT Line	New Construction	10000 South to 12300 South	1	76,000,000
1300 East (North) BRT Line	New Construction	University of Utah to Fort Union	1	71,000,000
1300 East (South) BRT Line	New Construction	Fort Union to about 12300 South	2	120,000,000

LONG RANGE TRANSPORTATION PLAN UPDATE
TRANSIT PROJECTS
2004 - 2030
(Continued)

Description			Phase	Capital Cost
Project	**Type Improvement**	**General Location(s)**		
Redwood (North) BRT Line	New Construction	North Temple to Mid-Jordan Line (about 8000 South)	1	107,000,000
Redwood (South) BRT Line	New Construction	Mid-Jordan Line (about 8000 South) to 14400 South	2	65,000,000
Foothill Blvd Enhanced Bus	New Construction	University of Utah to Interstate 80	1	7,000,000
Interstate 215 East Belt Enhanced Bus	New Construction	Interstate 80 to Fort Union	2	73,000,000
Mountain View (North) BRT Line	New Construction	S.L. International Airport to Mt. View Corridor to 4700 So.	2	206,000,000
Mountain View (South) BRT Line	New Construction	4700 So. to 13400 So. to Bangerter Hwy. to Traverse E. Line	2	395,000,000
Gateway Intermodal Center	New Construction	Near 600 West 200 South	1	33,000,000
Mid-Valley Intermodal Center	Upgrade	LRT / Commuter Rail Station	1	5,000,000
West Valley Intermodal Center	New Construction	Valley Fair Mall	1	3,000,000
University of Utah Transit Hub	New Construction	LRT Station	1	2,000,000
North Temple Transit Hub	New Construction	LRT Station near Redwood Road		3,000,000
Union Park Transit Hub	New Construction	Union Park Area	1	3,000,000
West Jordan Transit Hub	New Construction	Near SL Community College Jordan Campus	1	3,000,000
Sandy/South Jordan Transit Hub	Upgrade	Sandy Civic Center	1	3,000,000

* List excludes maintenance facilities that are included in the capital costs on a per new vehicle basis but of which the number and location of such facilities are to be determined.

APPENDIX D

MAINTENANCE AND PAVEMENT PRESERVATION

Wasatch Front Regional Council staff sent out a memo requesting all the cities and counties financial reports on maintenance and pavement preservation. About 80 percent of the cities and counties provided financial reports to be analyzed. Costs used for maintenance and pavement preservation for the cities and counties who did not turn in reports were interpolated from lane miles. The city and county costs per lane mile were then averaged for the Wasatch Front Urban Area. The maintenance cost per lane mile is $1,520 per mile and the pavement preservation cost per lane mile is $4,107 per mile. There are approximately 8,875 lane miles of local, arterial and collector roads that the cities and counties in the Wasatch Front Urban Area are responsible for. The table below and on the following page summarizes the maintenance and pavement preservation costs for the Wasatch Front Urban Area.

WASATCH FRONT URBAN AREA
MAINTENANCE AND PAVEMENT PRESERVATION COSTS FOR 2001

City or County	Maintenance Costs	Periodic Treatment Costs	Reconstruct Costs	Miscellaneous	Local Lane Miles	Maintenance Cost Per Local Lane Mile	Pavement Management Cost Per Local Lane Mile
Davis County	-	-	328,085	17,109	123	$ 139	$ -
Bountiful City	90,000	597,798	379,000	387,000	293	$ 1,628	$ 1,120
Centerville City	45,200	270,000	534,887	30,800	107	$ 711	$ 9,139
Clearfield City	-	50,000	391,111	50,000	112	$ 444	$ 7,155
Clinton City	-	45,000	316,559	-	69	$ -	$ 6,407
Farmington City	109,000	36,620	370,769	193,800	107	$ 2,822	$ 3,370
Fruit Heights City	9,000	-	198,000	19,100	31	$ 912	$ 13,217
Kaysville City	46,000	44,000	1,197,000	125,000	126	$ 1,356	$ 1,571
Layton City	30,000	700,000	1,000,000	142,000	394	$ 437	$ 3,152
North Salt Lake City	4,120	132,546	410,013	129,256	62	$ 2,138	$ 27,246
South Weber City	16,000	5,000	57,500	19,578	40	$ 893	$ 13,617
Sunset	*15,920*	*70,969*	*179,258*	*42,647*	*35*	*$ 1,660*	*$ 1,772*
Syracuse City	90,120	15,120	64,152	-	59	$ 1,521	$ 4,222
West Bountiful City	17,800	68,000	92,800	36,750	49	$ 1,124	$ 1,633
West Point City	*18,810*	*83,850*	*211,793*	*50,387*	*40*	*$ 1,724*	*$ 4,006*
Woods Cross City	17,000	150,000	-	120,000	55	$ 2,478	$ 5,348
Davis County Total	**508,969**	**2,268,903**	**5,730,927**	**1,363,427**	**1,703**	**$ 1,099**	**$ 4,697**
Salt Lake County	50,000	550,000	2,160,000	1,150,000	1,565	$ 767	$ -
Bluffdale City	77,000	-	130,000	25,000	55	$ 1,846	$ 49,049
Draper City	*164,825*	*249,253*	*851,170*	*390,000*	*136*	*$ 4,082*	*$ 956*
Midvale City	60,000	-	141,500	18,760	83	$ 947	$ 13,234
Murray City	15,000	109,000	1,637,000	17,905	231	$ 142	$ 611
Riverton City	*152,953*	*231,300*	*789,862*	*361,909*	*192*	*$ 2,681*	*$ 9,093*
Salt Lake City	683,967	1,097,000	2,561,033	1,848,000	1,415	$ 1,790	$ 722
Sandy City	92,500	650,000	1,166,414	-	604	$ 153	$ 6,060
South Jordan City	10,000	91,000	219,000	333,392	174	$ 1,974	$ 10,440
South Salt Lake City	250,000	40,000	612,000	135,000	139	$ 2,764	$ 2,225
Taylorsville City	268,891	627,411	652,206	900,000	279	$ 4,186	$ 2,335
West Jordan City	130,000	167,300	2,647,533	1,096,038	302	$ 4,064	$ 4,242
West Valley City	1,000,000	656,572	1,692,837	716,266	612	$ 2,805	$ 4,600
Salt Lake County Total	**2,955,136**	**4,468,836**	**15,260,555**	**6,992,269**	**5,788**	**$ 1,719**	**$ 3,409**

WASATCH FRONT URBAN AREA
MAINTENANCE AND PAVEMENT PRESERVATION COSTS FOR 2001
(Continued)

City or County	Maintenance Costs	Periodic Treatment Costs	Reconstruct Costs	Miscellaneous	Local Lane Miles	Maintenance Cost Per Local Lane Mile	Pavement Management Cost Per Local Lane Mile
Weber County	*460,521*	*1,592,196*	*1,636,489*	*157,302*	*157*	*$ 3,939*	*$ -*
Farr West City	120,000	-	-	11,500	26	$ 5,065	$ 124,372
Harrisville City	5,250	130,000	-	5,000	22	$ 473	$ -
North Ogden City	*80,716*	*279,066*	*286,829*	*27,570*	*106*	*$ 1,022*	*$ 1,227*
Ogden City	*321,167*	*1,110,395*	*1,141,285*	*109,702*	*552*	*$ 780*	*$ 1,024*
Plain City	-	-	130,000	2,000	14	$ 143	$ 160,834
Pleasant View	*38,617*	*133,515*	*137,229*	*13,191*	*47*	*$ 1,091*	*$ 2,738*
Riverdale City	12,000	24,000	180,000	-	61	$ 198	$ 4,469
Roy City	67,500	536,000	342,000	67,500	170	$ 794	$ 1,200
South Ogden City	-	140,000	465,000	20,000	103	$ 195	$ 8,545
Uintah City	*9,961*	*34,439*	*35,397*	*3,402*	*20*	*$ 662*	*$ 29,956*
Washington Terrace City	129,000	313,900	-	-	59	$ 2,197	$ 1,190
West Haven City	-	10,000	69,000	8,000	48	$ 167	$ 6,548
Weber County Total	**1,244,732**	**4,303,511**	**4,423,229**	**425,167**	**1,385**	**$ 1,798**	**$ 6,303**
Total County Costs	**4,708,837**	**11,041,250**	**25,414,711**	**8,780,863**	**8,875**	**$ 1,520**	**$ 4,107**

* Italicized rows were interpolated cities and / or counties.

ADMINISTRATION, TRAFFIC OPERATIONS AND SAFETY, AND ENHANCEMENTS

Wasatch Front Region Council staff contacted three cities, two large and one medium, to gather data for analyzing the administration, traffic operations and safety, and the enhancement costs. Salt Lake City, Bountiful City, and Ogden City were contacted to provide financial information on these costs. Only Salt Lake City and Bountiful City replied with data to analyze. The administration costs were given in a percentage of all transportation funding. Their traffic operations and safety costs and enhancement costs were converted to costs per lane mile. The administration costs were approximately 15% of all transportation related costs. Traffic operations and safety cost per lane mile for the two cities was $2,061 per mile, and enhancements costs were about $410 per mile. The table below summarizes administration, traffic operations and safety, and enhancement costs for the Wasatch Front Urban Area.

ADMINISTRATION, TRAFFIC OPERATIONS AND SAFETY, AND ENHANCEMENT COSTS FOR 2001

City or County	Administration Percent	Traffic Operations and Safety	Enhancements	Total Cost	Local Lane Miles	Traffic Operations and Safety Per Local Lane Mile	Enhancements Per Local Lane Mile
Bountiful City	15%	$ 74,000	$ 200,000	$ 514,220	293	$ 253	$ 683
Salt Lake City	14%	$ 3,445,712	$ 500,000	$ 5,205,783	1,415	$ 2,435	$ 353
Total Costs		**$ 3,519,712**	**$ 700,000**	**$ 5,720,003**	**1,708**	**$ 2,061**	**$ 410**

APPENDIX E

FREEWAY COST ANALYSIS

Cost for freeway and highway construction were derived from previous and existing freeway and highway projects estimates. The costs for the freeway projects were as follows: $30 million / mile for Legacy Parkway, I-80, and SR-201, $50 million / mile for I-15 (reconstructions) and the Western Transportation Corridor (WTC), which includes interchange costs, and a flat cost of $50 million for I-215 widening. WFRC assumed that the freeways and highways would need to be rebuilt in 20 to 30 years and not just expanded or widened. The above freeway and highway construction costs do not include any interchanges costs, except the WTC. The Utah Department of Transportation and the Wasatch Front Regional Council estimated the costs for interchanges as follows: Freeway to Freeway interchanges were estimated to be $40 million, new interchanges are $25 million, and any interchange upgrades were set at $10 million. The project costs were inflated to the average year of their appropriate phase. An inflation rate of three percent per year was used on the projects.

ARTERIAL COST ANALYSIS

Wasatch Front Region Council asked UDOT to help with these costs. Engineers from UDOT Region 1 responded with a list of costs per kilometer per item. The items included in the costs Region 1 provided included: Surfacing and Excavation, Drainage, Sidewalk, Curb & Gutter, Driveways, and Landscaping. The WFRC converted the per kilometer costs to per mile costs and derived templates for specific right-of-way and lanes to be constructed. The WFRC derived a total of 12 different templates that were used in the cost estimating of the arterial roadways. These templates ranged from a right-of-way (ROW) of 110 feet with 6 lanes, a center median, and shoulders down to a 66 feet ROW with 2 lanes and a center median. Any roadway that was to be constructed in a right-of-way larger than 110 feet was computed using site-specific details and costs. After the WFRC assigned the costs to the different roadways cross sections, the templates were taken to the Salt Lake and Ogden Technical Committees for review. No changes were requested after the meetings. The templates were then used to calculate a cost for each project.

The Utah Department of Transportation was also called on to assist with the right-of-way costs. A significant issue was the variance in the cost of land. The cost of right-of-way from city to city and from street corner to street corner varied so much that it was very difficult to calculate a general cost that could be used area wide. In the urban areas the costs of right-of-way could be as high as the construction of the roadway project, but in the rural areas the right-of-way cost were relatively cheap comparatively. The cost of $5 / square foot was decided on and was used to calculate right-of-way costs for any new project added to the plan. The project costs were inflated to the average year of their appropriate phase. An inflation rate of three percent per year was used on the projects.

FREEWAY INTERCHANGE CONSTRUCTION AND RIGHT-OF-WAY COST TEMPLATES

INTERCHANGE COST	TYPE OF IMPROVEMENT
$ 40,000,000	Freeway to Freeway
$ 25,000,000	New Construction
$ 10,000,000	Upgrade
Right-Of-Way	$ 5 / ft^2

ROAD CONSTRUCTION PER MILE
COST TEMPLATES

RIGHT-OF-WAY (Feet)	CONSTRUCTION (Cost Per Mile)	DESCRIPTION
110	$ 4,500,000	6 Lanes, 1 Center or Median, and 2 Shoulders
110	$ 4,700,000	4 Lanes, 1 Center or Median, 2 Shoulders, and 2 Sidewalks
110	$ 4,700,000	6 Lanes, 1 Center or Median, and 2 and Sidewalks
84	$ 3,900,000	2 Lanes, 1 Center or Median, 2 Shoulders, and 2 Sidewalks
84	$ 3,900,000	4 Lanes, 1 Center or Median, and 2 Sidewalks
66	$ 3,100,000	2 Lanes, 1 Center or Median, and 2 Sidewalks
66	$ 3,500,000	4 Lanes, and 2 Sidewalks
66	$ 3,600,000	4 Lanes, and 1 Center or Median
150+	$ 7,100,000	8 Lanes, 2 Median, and 4 shoulders
220	$ 5,500,000	4 Lanes, 2 Median, and 4 shoulders
125	$ 6,100,000	6 Lanes, 1 Center or Median, 2 shoulders, and 2 sidewalks
Legacy Hwy / I-80 / SR-201	$ 30,000,000	
I-15 (reconstruction), 5600 W. Freeway	$ 50,000,000	

PLANNING LEVEL COST TEMPLATES

ITEMS	QUANTITY	UNIT	UNIT COST PER KILOMETER	UNIT COST PER MILE
Surfacing and Excavation	0	3.6m / 11.8 ft lanes	$ 130,000	$ 209,209
Drainage	0	Sides	$ 200,000	$ 321,860
Sidewalk	0	Sides	$ 50,000	$ 80,465
Curb & Gutter	0	Sides	$ 45,000	$ 72,419
Driveways	0	Sides	$ 75,000	$ 120,698
Landscaping	0	Sides	$ 30,000	$ 48,279
Sub Total				
Traffic Control	1	7.5%	$ -	$ -
Sub Total				
Contingency @30 %	1	30.0%	$ -	$ -
Sub Total				
Mobilization	1	10.0%	$ -	$ -
Sub Total				
Preliminary Engineering	1	8.0%	$ -	$ -
Construction Engineering	1	10.0%	$ -	$ -

APPENDIX F
UTA BUS FLEET
EXPANSION AND REPLACEMENT SCHEDULE
2004 - 2030

WASATCH FRONT URBAN AREA	2004-2012	2013-2022	2023-2030	2004-2030
Bus Fleet Expansion	112	174	160	446
Bus Vehicle Replacement	358	496	570	1,424
BRT Vehicle Expansion	44	68	0	112
BRT Vehicle Replacement	0	58	88	146
Rail Vehicle Expansion	98	4	2	104
Rail Vehicle Replacement	0	0	23	23

APPENDIX G
FINANCIAL PROJECTIONS

ASSUMPTIONS	ASSUMP	2004-2012	2013-2022	2023-2030	TOTAL 2004-2030
Motor Fuel - gallons sold	3.00%	10,466,546,900	15,410,422,802	16,064,642,399	41,941,612,100
Special Fuel - gallons sold	3.00%	3,713,118,707	5,467,011,206	5,699,102,559	14,879,232,472
STATE OF UTAH ***HIGHWAY FUNDS*					
FEDERAL REVENUE					
UDOT Administered Programs	2.00%	1,292,972,516	1,730,986,319	1,653,978,448	4,677,937,283
UDOT Special Programs	2.00%	91,366,404	122,318,141	116,876,469	330,561,013
State Match		149,819,870	222,396,535	212,502,590	584,718,996
MPO Administered Programs	2.00%	293,160,694	392,473,270	375,012,975	1,060,646,939
JHC Administered Programs	2.00%	75,945,030	101,672,546	97,149,352	274,766,928
Federal Funds - CHF	2.00%	-135,840,000	0	0	-135,840,000
Total Federal Revenue		1,767,424,514	2,569,846,811	2,455,519,834	6,792,791,159
STATE REVENUE					
1/16 cent sales tax - B&C, park access, corridor preservation		168,687,000	187,430,000	149,944,000	506,061,000
Motor fuel tax	MIXED	3,048,314,974	5,730,274,330	7,169,530,048	15,948,119,353
Special fuel tax	MIXED	1,122,720,932	2,059,712,900	2,613,775,412	5,657,764,770
Vehicle Control Fees	3.00%	44,904,210	66,114,725	68,921,497	179,940,432
Motor vehicle registration	3.00%	295,077,242	434,457,048	452,901,079	1,182,435,369
Proportional Registration	3.00%	125,723,395	185,108,870	192,967,308	503,799,573
Temporary Permits	3.00%	4,325,349	6,368,429	6,638,788	17,332,566
Special Transportation Permits	3.00%	62,846,384	92,531,888	96,460,149	251,838,421
Highway Use Tax	3.00%	63,808,349	93,948,238	97,936,628	255,693,214
Safety Inspection & Misc. Fees	3.00%	17,351,184	25,547,019	26,631,569	69,529,772
To Centennial Program - Dept. Efficiencies	-	-24,000,000	0	0	-24,000,000
To Centennial Program	3.00%	-666,434,009	-454,423,217	0	-1,120,857,227
Gross Free Revenue		4,263,325,010	8,427,070,229	10,875,706,478	23,566,101,716
Miscellaneous Other Revenue	-	54,000,000	60,000,000	48,000,000	162,000,000
Subtotal Free Revenue and Other		4,317,325,010	8,487,070,229	10,923,706,478	23,589,657,242
STATE OPERATING COSTS					
UDOT Operations	2.00%	1,528,356,743	2,050,305,637	1,959,091,933	5,537,754,313
Transfers Appropriated to other State Agencies		132,500,000	161,000,000	142,000,000	435,500,000
Corridor Preservation from 1/16th cent sales tax		5,060,610	5,622,900	4,498,320	15,181,830
State Park Access Roads from 1/16th cent sales tax		5,060,610	5,622,900	4,498,320	15,181,830
B&C Roads Fund Allocation	25.00%	1,321,708,785	2,309,450,061	2,786,887,980	6,383,435,707
State Match F.A.	12.00%	149,819,870	222,396,535	212,502,590	584,718,996
Subtotal State Operating Costs		3,142,506,618	4,754,398,033	5,109,479,143	12,971,772,676
Available State Funds (Revenues less Operating Expense)		1,174,818,391	3,732,672,195	5,814,227,336	10,617,884,566
CENTENNIAL FUND - BONDS & OTHER REVENUES					
Dedicated Sales Tax (3% growth after 2007) - CHF	3.00%	52,311,200	35,880,924	0	88,192,124
Dedicated Registration Fees - CHF	200k/yr	173,700,000	212,000,000	184,000,000	569,700,000
State General Fund - CHF		738,360,000	1,000,000,000	800,000,000	2,538,360,000
Bonding - CHF		592,000,000	0	0	592,000,000
From Free Rev. (includes dept. efficiencies) - CHF		690,434,009	454,423,217	0	1,144,857,227
Bond Debt Service Interest - CHF		-468,097,000	-72,166,000	0	-540,263,000
Bond Debt Service Principal -CHF		-876,087,000	-821,798,000	0	-1,697,885,000
Local Governments / Misc / Other -CHF		1,953,000	0	0	1,953,000
Federal Funds - CHF		135,840,000	0	0	135,840,000
Centennial Revenue Subtotal		1,040,414,209	808,340,141	984,000,000	2,832,754,350
Centennial Project Expenditures		-968,458,000	0	0	-968,458,000
Net Centennial Available		71,956,209	808,340,141	984,000,000	1,864,296,350
Total State Revenue		1,246,774,601	4,541,012,336	6,798,227,336	12,482,180,917
TOTAL FEDERAL & STATE REVENUE		3,014,199,114	7,110,859,147	9,253,747,170	19,274,972,076

FINANCIAL PROJECTIONS
(Continued)

ASSUMPTIONS	ASSUMP	2004-2012	2013-2022	2023-2030	TOTAL 2004-2030
ANNUAL FUNDING TOTALS					
Available State Funds		1,174,818,391	3,732,672,195	5,814,227,336	10,617,884,566
Federal Program (non-CHF, excludes MPO and JHC Funds)		1,398,318,790	2,075,700,995	1,983,357,507	5,457,377,292
CHF Totals (net)		71,956,209	808,340,141	984,000,000	1,864,296,350
Total All Funding Sources		2,645,093,390	6,616,713,331	8,781,584,842	17,939,558,209
CUMULATIVE FUNDING TOTALS					
Available State Funds		5,351,208,892	29,547,508,491	64,150,378,762	97,813,454,215
Federal Program (non-CHF, excludes MPO and JHC Funds)		7,509,738,338	26,272,028,645	37,480,255,141	71,262,022,124
CHF Totals (net)		11,887,202,868	59,484,447,734	112,728,507,916	182,864,516,588
Total All Funding Sources		24,748,150,098	115,303,984,870	214,359,141,819	351,939,992,928
PRESERVATION OF STATE SYSTEM					
Contractual Maintenance		490,000,000	625,000,000	560,000,000	1,675,000,000
Signals, Spot Improvement, Lighting, Barrier	3.00%	117,344,565	180,675,992	190,283,691	488,304,248
Bridge Preventive Maintenance	3.00%	125,828,033	248,786,950	274,848,319	649,463,302
Bridge Rehabilitation / Replacement	3.00%	85,761,258	132,151,104	137,761,323	355,673,684
Highway Rehabilitation / Replacement	3.00%	380,659,630	745,083,085	901,080,061	2,026,822,777
Hazard Elimination, Safety, Enhancements	3.00%	78,479,095	115,548,714	120,454,110	314,481,919
Region / Department Contingencies		34,700,000	45,000,000	40,800,000	120,500,000
Annual System Preservation		1,312,772,581	2,092,245,844	2,225,227,504	5,630,245,930
Cumulative Total		7,223,053,288	25,191,683,989	37,846,138,977	70,260,876,255
Annual Differential of Funding less System Preservation		1,332,320,809	4,524,467,487	6,556,357,338	12,309,312,279
WASATCH FRONT REGIONAL COUNCIL ***HIGHWAY FUNDS***					
REGIONAL UDOT REVENUES					
WFRC portion UDOT funds - Balance Available for New Projects	55.00%	732,776,445	2,488,457,118	3,605,996,536	6,770,121,753
WFRC portion of CHF funding		635,139,000	0	0	635,139,000
REGIONAL REVENUE					
STP @ 100% of Total (60% State, 40% Local)	0.00%	130,350,744	144,834,160	115,867,328	391,052,232
CMAQ @ 60% of Total (50% State, 10% Local)	0.00%	41,066,217	45,629,130	36,503,304	123,198,651
Salt Lake County 1/4 of 1/4 sales tax	6.00%	135,573,357	262,723,532	353,297,143	751,594,032
TOTAL REGION REVENUE FOR NEW PROJECTS		248,005,651	387,648,303	453,236,960	1,088,890,913
LOCAL REVENUE					
B & C Funds	41.25%	545,166,022	952,580,264	1,149,509,371	2,632,979,588
General Fund Contributions	3.00%	861,265,784	1,268,084,881	1,321,918,964	3,451,269,629
Innovative Financing		84,375,000	93,750,000	75,000,000	253,125,000
TOTAL LOCAL REVENUE		1,490,806,806	2,314,415,145	2,546,428,335	6,337,374,217
LOCAL EXPENDITURES					
Administration	15.00%	232,468,721	356,993,050	389,828,873	977,149,233
Maintenance	3.00%	181,174,794	293,357,625	334,118,124	808,650,543
Pavement Preservation	3.00%	489,529,526	792,644,583	902,778,380	2,184,952,488
Traffic Operations and Safety	3.00%	245,658,717	397,769,780	453,037,799	1,096,466,296
Enhancements	3.00%	48,869,517	79,129,359	90,123,968	218,122,844
Subtotal of Total Local Expenditures		1,197,701,275	1,919,894,396	2,169,887,143	5,285,341,404
LOCAL BALANCE AVAILABLE FOR NEW PROJECTS		352,090,198	460,059,268	428,972,007	1,228,986,814
BALANCE AVAILABLE FOR NEW CAPACITY IMPROVEMENTS		**1,968,011,294**	**3,336,164,689**	**4,488,205,502**	**9,723,138,481**

FINANCIAL PROJECTIONS ASSUMPTIONS

The Utah Department of Transportation Statewide Planning Division, with the help of Wasatch Front Regional Council planners and engineers, developed the table above in 2003. The above table is a summary of the existing plan starting in 2003, as the base year, and ends in 2030. The Utah Department of Transportation researched the actual costs for all federal revenue, state revenue, statewide operating costs, centennial fund, and the preservation of the statewide system in 2003. These costs, in most cases, were rounded to the nearest thousand dollars and used as the base line costs. The rates of growth assumptions were calculated from actual rates in previous years. These growth rates are consistent with the current rates of growth for each of the federal revenue, state revenue, statewide operating costs, centennial fund, and the preservation of the statewide system.

The regional revenue includes several sources. The estimate for federal sources is based on actual 2003 STP and CMAQ funds apportioned for the Wasatch Front Region. The Salt Lake County 1/4 of 1/4 percent sales tax was updated based on the sales tax collected in 2002.

The local revenue was derived at the same time as federal revenue, state revenue, statewide operating costs, centennial fund, and the preservation of the statewide system. Local expenditures come from a survey the WFRC conducted in Salt Lake, Davis, and Weber counties. (The cost per city and/or county can be found in Appendix D.) These expenditures were increased at the same rate as the UDOT expenditures, including a growth rate for the lane miles.